How to Paint Photographs in Water Colors.

AYRES.

SECOND EDITION

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HOW TO PAINT

PHOTOGRAPHS

IN

WATER COLORS.

A PRACTICAL HANDBOOK DESIGNED ESPECIALLY FOR THE USE OF STUDENTS AND PHOTOGRAPHERS.

CONTAINING DIRECTIONS FOR BRUSH-WORK IN ALL DESCRIPTIONS OF PHOTO-PORTRAITURE.

BY

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ARTIST.

There is no degree of talent so small that proper instruction may not develop it.

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PREFACE TO FIRST EDITION.

If I were asked to give a reason for the issue of this little volume, I would reply that I believe *it is needed.*

I have undertaken the task of supplying this want—appropriating thereto my time apart from professional duties—only because it has not been done by some brother artist, perhaps more competent.

The field is already somewhat occupied, but I claim that the few books now to be had are *not sufficiently* PRACTICAL, *and comprehensive in detail*,—especially for beginners,—and not fully applicable to the present advanced status of American photography, and the corresponding demand for improvement in the art of coloring.

This humble effort may, doubtless, contain directions that will provoke a smile from full-fledged and experienced artists; but let it be remembered that its contents are NOT designed for their use or criticism.

I have reason to believe, however, that it will supply a desideratum in the study of art, and afford great assistance *to beginners* and the uninitiated generally.

G. B. A.

PREFACE TO SECOND EDITION.

If I were asked to give a reason for the issue of the *Second Edition* of this little volume, I would reply that *it* is *needed!*

The extraordinary sale which disposed of the first thousand *within three months*, astonished both author and publishers, and furnished the most gratifying evidence that their united labors had not been in vain.

Although the continued demand for the book would have justified another edition of it *immediately*, I preferred to delay the same, in order to revise and make important additions, which I believe render it now quite complete. It has been my aim to leave nothing unwritten which I believed could in anywise assist the student in the attainment of *practical ability.*

Many topics *new* to our art are also introduced, and other improvements made, which—together with its general acceptability, as indicated by the sale aforementioned—I hope now constitute this book the *standard manual* for instructing "How to Paint Photographs in Water Colors."

G. B. A.

INTRODUCTION.

No *book* ever made a *painter*, or ever will. Neither can Art be taught *practically* by books; but *the written experience of others* may lend important *assistance* to the student who undertakes the task of SELF-TUITION. This is particularly true if he is gifted with such powers of perception as enable him to *understand* the instructions which are presented, without any further aid.

There are hundreds of instances,—especially outside the cities,—where *books* are the only available means of obtaining this kind of information; and it is hoped that this little work will be found sufficient for, and meet the expectations of, the many who cannot enjoy the additional advantage of a teacher.

Doubtless there are photographers in many parts of the country who have orders for painted and retouched work, but who have not the opportunity of committing their pictures into the hands of regular artists. At the same time they may *themselves* be possessed of a degree of native genius which only needs direction and encouragement, to enable them to do at least *some* of their brush-work. Indeed, there is no good reason why every competent photographer, who has any inherent talent and aptness for picture-

making, should not—in addition to the operations of the camera and dark-room—become tolerably proficient to do *some* of his ordinary coloring; and, by study and practice, a considerable proportion.

"Very erroneous ideas," writes a distinguished painter, "are entertained regarding the capability of the mind to acquire correct perceptions of color, and to realize them in artistic effects. Too much is ascribed to genius, and too little to study and perseverance. Both *the appreciation of color* and *the power of expressing it* are doubtless ATTAINABLE BY EDUCATION; and under proper direction, the laws relating to harmony of color may be as readily understood and practised as those relating to perspective when representing forms without color; the pursuit demanding nothing more than the general capabilities required in the study of the latter. But the student who desires to attain *excellence*, must devote his time and labor with that untiring energy which a love of the art can alone excite."

In preparing this volume we have assumed that the majority of those for whose use and improvement it is more especially designed, have no desire to acquaint themselves with the *philosophical* minutiæ of the art of delineating the human countenance and form, as based upon the *true art* standpoint of an original creation upon white paper. The photographic image, already provided, obviates this necessity; and hence our teachings will be found *simple* and *practical*, as regards the separate matter of COLORING,—whilst we leave the profounder aspects of the subject to be studied, by the more ambitious, from other and higher sources.

Practical photographers are not, however, the only persons to be assisted by this book. It is also designed for *others* who wish to essay Photographic Painting as a recreation, or to pursue it as a livelihood. The country is full of those who seek instruction—especially women; but the inconvenience and expense of tuition at the hands of competent instructors (to be found only in the cities), clearly *proves the necessity* for *a standard book* as the next best means of gaining the desired knowledge.

To such it is believed this work will be really valuable; and our sincere hope is that it will be found sufficiently plain, *practical*, and comprehending *all* that is necessary to render this delightful study *easy*,—furnishing one more stepping-stone to artistic and personal advancement.

NOTE.—We have not deemed it to be inconsistent with our plan, either, to introduce the brief chapters which precede the List of Colors; since a knowledge of the matters contained therein is essential to an *intelligent* selection of colors and handling of the brush afterwards. But as they may be rather abstruse for *the beginner*, a thorough *study* of them may be *deferred* until a certain degree of labor has been accomplished, although they *should be* CAREFULLY READ *at the outset.*

How to Paint Photographs.

Classification of Colors.

It is proposed that this work shall serve as a guide to labor, rather than an index to philosophy—to teach the student *how to do*, without cumbering his mind with *the reasons why*.

Hence, it will be expedient only to briefly record here certain recognized, important and interesting *facts* respecting the nature of colors, and recommend to the student a further and more complete investigation of colors—their qualities, and innumerable effects of contrast and harmony—as it can be found in books specially devoted to this subject.

Notwithstanding the assertions of the old philosophies about the "*seven* primary colors," there are indeed but *three*, viz.,

Red—Yellow—Blue,

and these are termed *Primary* (or *Simple*) colors, because they are the source whence all others are derived by mixture.

The combination of any two of these, in equal parts, pro-

duces another class, termed *Secondary* (or *Compound*) colors. Thus:

Red and Yellow make Orange,
Yellow and Blue make Green,
Blue and Red make Purple.

A further combination, in pairs, of the Secondary produces a third class designated *Tertiary* (or *Mixed*) colors. Thus:

Green and Orange make Citron, or Citrine,
Orange and Purple make Russet,
Purple and Green make Olive;

each of which is variously compounded of the *three* original or primary colors—as the secondary order is of *two*—one of the primaries, however, predominating.

A fourth class may be added, and designated *Irregular Colors;* under which head is included the long list of browns, grays, various neutral tints, drabs, stone colors, etc. These have also received the name of *Semi-neutral Colors.*

☞ It will be observed, that whilst each combination of two primary colors produces a new and perfect hue, each subsequent combination tends to produce *neutrality;* the neutral tints formed partaking, however, more or less of the special characteristics of the primaries to which they are most allied.

White and Black, which most completely contrast as light and darkness, are not generally regarded *as colors:* White, as the representation of pure daylight in its undivided state, being supposed to represent a combination of all colors; and Black, like darkness, or the absence of both color and light. However, they hold an important place in almost every picture, having their own effect, when in combination with other colors.

Normal Gray, is black mixed with white in various proportions, producing numerous *tones* of pure gray. Grays

also result from the mixture of all three primaries in various proportions, and these are designated *Colored* grays.

Complementary Colors.

The mixture of any two of the primary colors, forming a secondary, this secondary is *complementary* to the remaining primary color. Thus,

Orange produced by Red and Yellow, is complementary to Blue;
Green, " Yellow and Blue, " " " Red;
Purple, " Blue and Red " " " Yellow.

The combination of any two secondary colors will produce a tertiary, which is *complementary* to the remaining secondary. Thus,

Citrine, produced by Orange and Green, is complementary to Purple;
Olive, " Green and Purple, " " " Orange;
Russet, " Purple and Orange, " " " Green.

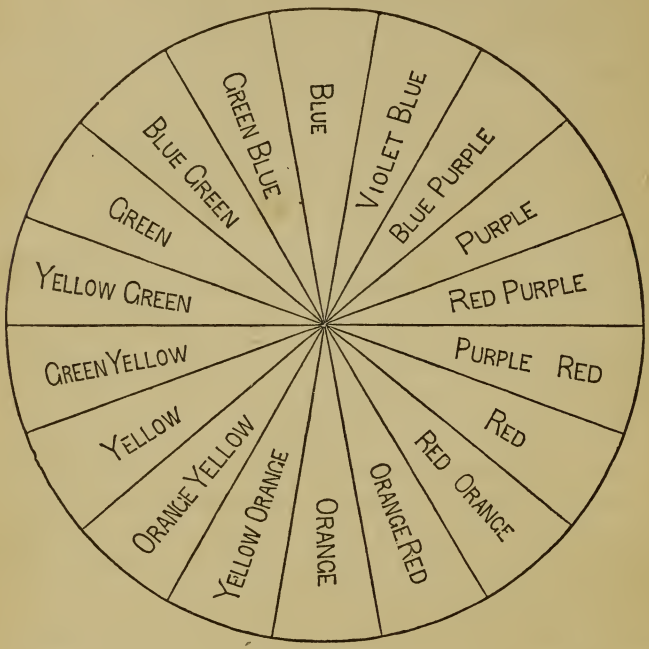
These combinations may be carried to an almost unlimited extent, with similar results; for this relation of colors is not arbitrary, nor the result of taste or fancy; but it is founded upon absolute inherent principles, which exist as a physical necessity of the organs of vision.

Black and White are also to be regarded as complementary to each other.

We have thus far explained the term "complementary" with reference only to colors in their primary signification—treating red, yellow and blue without regard to the various gradations of hue which each color possesses. But the principle which governs the relations of the simple primaries applies also to every variety and combination of tint; and which could be multiplied by gradations so delicate that it would be impossible to enumerate them.

The following diagram of the complementary relations of colors is furnished as a ready reference for the student, and is subdivided far enough for all ordinary purposes.

☞ *The complementary of each color will be found in the angle directly opposite:* whilst it will be observed that each pair yields a harmonious balance of three primary colors.



Contrast.

Contrast is *the source of all character and effect* in color, as in every other division of the art. No tint will appear very bright unless set off by an opponent, and by this treatment, *effect* may be given to any color; but the shadows must all partake of the same negative tone, and that should be the natural antagonist of the general hue of the light, which again must be gently diffused over local colors, in order to tinge with the same atmosphere, and give truth and union to the whole.

The subject of Contrast embraces two principal heads: Contrast of Color, and Contrast of Tone, or intensity.

Contrast of Color.

By this it is meant that, complementary colors placed in juxtaposition mutually enrich each other; and from the same cause, neutral tints placed in juxtaposition with full hues appear to be tinged with the complementary color of such hues. The converse is equally true: that colors *not* complementary to each other are mutually injured by contact. It is obvious, therefore, that neutral tints placed in contact with full hues, should incline to the complementary of such hues, in order to produce the best effect.

Contrast of Tone.

Results from placing side by side two tints of the *same* color, but of different degrees of intensity or depth; from which the deep tint will appear still deeper, and the light tint still lighter—the difference in intensity appearing greatest at the points of contact. All colors gain depth by contact with White, the white assuming the complementary tint of the color near to it; whilst Black has the effect of weakening colors contiguous to it. The juxtaposition of Gray, which is a mixture of white and black, gives brilliancy to all *pure* color.

Therefore, the student will see that he has the power of changing the characteristics of pigments by simple juxtaposition; he can either enhance the value of both, or sacrifice one and exalt the other; and in cases where a pleasing *ensemble* is not presented by his model, he can adapt the colors he is at liberty to choose to those which are inherent in the model, so as to arrive at a satisfactory and harmonious effect.

Without pursuing this subject beyond the limits of these general principles—(as we might, and show that an infinity of pleasing results can be obtained by the judicious arrangement of analogous tints in harmonious relations)—the stu-

dent is advised to a further examination of those works which treat upon the science of colors, minutely and philosophically. For this reason, space has not been occupied to explain *why* these things *are so;* it is our aim to make *this* book a simple *guide* to practical *working*, and not an exposition of philosophical color-mysteries.

Peculiar Characteristics of Colors.

The primary colors are suggestive of various ideas, according to particular circumstances. Thus, painters have agreed to call red and yellow and their mixtures *warm*—giving notions of light and heat. They also *come near* the eye, and are less impaired by distance than any other colors; yellow less than red, and green less than purple.

Red is the most powerful, distinct, and exciting of all colors; stimulates the eye, and predominates over all colors designated *warm.*

Yellow is the primary most closely allied to light.

Blue, and those tints of which the larger portion is blue, suggests an idea of *coldness*, and *distance.*

Of the *Secondaries:* Orange being the most luminous is the most striking and prominent; the connecting link of harmonizing color between yellow and red.

Green is generally considered the mean between orange and purple, thus taking position between light and shade. It is the most soothing and refreshing, although a preponderance of it is scarcely ever truly pleasant.

Purple, coolest and darkest of the secondaries, partakes considerably of the retiring qualities of its chief primary, blue. Next to green it is the least fatiguing to the eye; and its various compounds afford most of the colored grays.

The plan most generally adopted is, that the warm colors should always be placed at the front; as having a tendency to impress the eye more strongly, or to come more prominently forward than the colder colors; but union and har-

mony require that some intermixture of warm color should be put in the background, and of cold into the front.

The lighter colors also brighten those of a deeper kind; as white, or yellow, put with red or blue, renders these more lively. If intermixed with them, it diminishes their depth.

There are also colors which *diminish* each other's effect, and *deaden* a neighboring one; others again *raise* the force of those with which they are combined—as white heightens the rose-tint of the face, and as a red turban would suit an Ethiopian.

Colors also *suit each other* from the one being warm and the other cold; as red and blue, orange and blue, brown and blue; and yet two colors sometimes harmonize with each other, as blue and white, when both are cold.

White increases the intensity of black by contrast, as black adds to the brilliancy and distinctness of white; and though white makes a red face look redder, it increases the paleness of a pale complexion. Black, too, has a similar effect.

Some colors *disagree* from their being positive discords; some fail to accord with each other from their tones being of unequal intensity, some from their proportions in quantity being too much disregarded; and some from wanting another color to complete the harmonious combination.

As an appropriate and entertaining conclusion to the entire subject of the relations and harmonies of colors, we append the following lines, which aptly embody the principles contained in this division of study. Versification being an acknowledged help to memory, the ideas contained in these lines may be easily caught and kept ever present in the student's mind.

The Relations and Harmonies of Color.

BY HENRY HOPLEY WHITE, ESQ.

Blue—Yellow—Red—pure simple colors all
(By mixture unobtained) we PRIMARIES call;
From these in various combinations blent,
All other colors trace their one descent.
Each mixed with each—their powers combined diffuse
New colors—forming SECONDARY hues:
Yellow with red makes *Orange*, with blue—*Green*,
In blue, with red admixed is *Purple* seen.
Each of these hues in *Harmony* we find,
When with its complementary combined;
Orange with blue, and green with red, agrees,
And purple tints, near yellows, always please.
These secondaries TERTIARIES produce,
And *Citrine—Olive—Russet* introduce:
Thus green with orange blended forms citrine,
And olive comes from purple mixed with green;
Orange, with purple mix'd, will russet prove;
And, being subject to the rule above,
Harmonious with each tertiary we view
The complemental secondary hue:
Thus citrine—olive—russet harmonize
With purple—orange—green, their true allies.
These hues, by white diluted, *Tints* are made,
By black are deepened into darkest *Shade*.
Pure or combined, the primaries all three,
To satisfy the eye, must present be;
If the support is wanting but of one,
In that proportion harmony is gone:
Should red be unsupported by due share
Of blue and yellow *pure*—combined they are
In green—which secondary, thus we see,
The harmonizing medium of all three.
Yellow for light *contrasts* dark purple's hue,
Its complemental, form'd of red and blue.
Red most *exciting* is—let Nature tell
How grateful is, and *soothing*, green's soft spell.

So blue *retires*—beyond all colors *cold*,
While orange *warm*—*advancing* you behold.
The union of *two* primaries forms a hue,
As perfect and decided as 'tis new;
But all the mixtures which all *three* befall
Tend to destroy and neutralize them all;
Nay, mix them—three parts yellow—five of red
And eight of blue—then colors all are fled.
When primaries are not *pure*—you'll surely see,
Their complementals *change* in due degree;
If red (with yellow) to a scarlet tend,
Some blue its complemental green will blend;
So if your red be crimson (blue with red),
Your green with yellow would be varied;
If yellow tends to orange, then you find
Purple (its complement) to blue inclined;
But if to blue it leans, then mark the change,
Nearer to red you see the purple range.
If blue partakes of red—the orange then
To yellow tends; if yellowish—you ken
The secondary orange glows with red.
Reader, farewell! my lesson now is said.

Portraiture.

Likeness is the very essence of portraiture. Whatever may be the artistic merits of a painting which is intended to represent the countenance and figure of a valued friend, its greatest perfection must exist in its *correct likeness*. Our personal affections will always bid defiance to any rivalry from art; and hence an ordinary, *but correct*, portrait will elicit our admiration and love, whilst one lacking this essential point would be disregarded.

There is not one person in the world who has not a particular characteristic both in face and body. This will be patent in the drawing of the photograph itself; and while the camera produces nature truthfully—perhaps too much so for mortal vanity in general—the artist's office is to impart life and color. To adorn nature too much is doing a violence. We can imitate her with sufficient exactness,

however, and still perceive and comply with what is advantageous in art.

It is scarcely proper to undertake the coloring of a photographic portrait without first seeing the original; or if that is impossible, of ascertaining fully the principal colors to be used. Owing to the shade of blackness with which the various colors "take," the photograph itself gives very little or no indication on many points. Therefore, if practicable, secure a lock of the hair; understand by an interview with the original, or from the remembrance of others, the exact color of the eyes; kind of complexion; defects or peculiarities of countenance and figure; what alterations and corrections are desired; colors for the drapery; what sort of jewelry, *et cetera*. In short, remember that knowledge and a full understanding of the subject makes work pleasant and easy; and he who knows the road gets to his journey's end with more speed and certainty than he who, through ignorance or carelessness, gropes it out.

In accomplishing a photo-portrait, the student should keep in mind *a union of the true and the beautiful*. However correctly the camera may have attained the former, it has not intelligence to discriminate and perfect the latter. The student should derive from his subject a feeling peculiar to the work before him. He must not paint all alike, and should avoid the fault of *mannerism*. In painting children's pictures, for instance, he will rather feel at liberty to idealize them—to *make* them appear somewhat beautiful and picturesque whether they *are* so or *not*—and this license, to a certain degree, may be extended also to pictures of women, unless the photograph should render it impossible. With men's faces, on the contrary, the feeling should change; inspiration for the beautiful should give place to zeal for the delineation of vigor and strength—giving a true portrait while portraying a distinct character.

It may be remarked that the power of *masculine* expres-

sion lies in the forehead, the under lip, the chin, and, of course, in the graver language of the eye. The sweetness of the *feminine* graces resides in the mouth and eyes; especially at the exterior corners of and below the eyes, at the corners of the mouth, and in the play of the lower lip. To hit the happy medium in the distinctive treatment of masculine and feminine faces is perhaps the greatest excellence in the art. In the former, the student's aim should be to maintain that quality of intelligence which is distinctive of the original, without falling into severity; in the latter, the object should be to endow the photographic representation with vitality and sweetness, without carrying his work beyond the reasonable limits of delicacy and beauty.

A little experience in photographic painting will also introduce to the beginner a class of persons who may insist upon the correctness of the camera, and wish to be painted *as they are*—(or, as Cromwell said, "Paint me as I am; warts, wrinkles, and all!")—desiring no changes, and wishing to see their veritable selves without flattery or qualification. It may not be improper, however, to intimate that these persons will be found "indifferent honest" after all; and that where the artist's better judgment suggests improvement which shall not impair the likeness as a whole, it will *not* be complained of as objectionable.

While the license of art, however, permits a representation as favorable as possible to the original, there is yet a limit to this complimentary work which should be defined by the peculiarities of each case. In instances of personal imperfection, if a sufficient portrait can be preserved without signalizing the natural blemishes which the relentless camera has reproduced, it is consistent with the rules of legitimate practice to *subdue* them; but this must be done with great discretion, for they often comprise the very climax of individuality. Hollow cheeks, a long mouth, a protruding under lip, angular shoulders and elbows, bony

hands, &c., will too frequently demand subjection to more agreeable shape.

It may also sometimes occur that alterations, which are demanded by every principle of correct art, *cannot* be made, and should not be *attempted*, unless after consultation with those who are to receive the finished work. This will be found more especially the case in reproducing old pictures: these very faults which may appear rather hideous to our more artistic eyes, have become, in time, part and parcel of the picture itself; and nothing different from an exact copy of the long-looked-at original would be satisfactory. Very often, too, the original will prove to have been so badly taken that it does not furnish sufficient basis for much work *according to art;* in which case the student will perceive that his touches must be few, but correct, and that just as soon as the *likeness* is reached, his labor on the face must cease. Unfortunately, the deficiency of knowledge among a majority of the daguerreotypists of a former day, has been the cause of much trouble of this kind to the photograph painters of the present.

☞ The propriety of the above chapter on the subject of Portraiture may not have been at once apparent—this work being designed as a guide to the painting of *photographs;* and particularly when it is remembered that the portrait has already become a fixed fact by the operation of the camera in the hands of the photographer. It is also true that ignorance of the art-elements, in producing the photographic image, cannot be atoned for by any superior intelligence of the painter. But certain *emergencies* must be provided for, and the student will, as he progresses, find it to be actually *necessary* to possess himself with knowledge on the subject of portraiture, perhaps much beyond these cursory observations; that is, if it is his purpose to accomplish fully and satisfactorily the art of photo-portrait painting.

List of Colors.

The Water Colors used in the operation of painting a photograph should be selected with care, and from those

known to be of superior manufacture. Each one should be a good type of the pigment, for they not only differ as prepared by different colormen, but even from the same house at various times.

The number of colors to be employed will, of course, depend much upon the option and the ability of the student. Certain colors are at once indispensable, whilst others, of a secondary importance, can be procured as his knowledge increases and the desire or necessity occurs.

Those which may be regarded as *essential* at the very beginning, and of constant and important use in all the future, are as follows:

Burnt Sienna,
Chinese White,
Cobalt Blue,
Crimson Lake,
French Blue,
India Ink,
Indigo,
Indian Red,
Indian Yellow,
Yellow Ochre,
Lampblack,
Neutral Tint,
Pink Madder,
Raw Sienna,
Scarlet Vermilion,
Sepia,
Vandyke Brown,
Venetian Red.
Vermilion.

The colors which, in time, become *desirable* for use, and whose effect, in some instances, no mixture of those abovementioned will exactly produce, are as follows:

Bistre,
Brown Pink,*
Burnt Umber,
Cadmium Yellow,*
Carmine,*
Dragon's Blood,*
Emerald Green,*
Flake White,
Gamboge,
Lemon Yellow,*
Light Red,
Madder Brown,
Orange Chrome,
Olive Green,*
Prussian Blue,
Prussian Green,*
Purple Lake,*
Purple Madder,*
Raw Umber,
Roman Ochre,
Roman Sepia,
Rose Madder,*
Scarlet Lake.*

Colors marked thus (*) are valuable for convenience, and for the obtaining of special results. There are also other pigments commonly known and often used, but of doubtful character as to permanency and working qualities, and therefore not competent to our purpose.

In addition to colors, the student should be provided with hard and soft pastel, colored and gray; and some colored pencils (*Creta Lavis*) in cedar wood.

☞ It may be well also to advise that, as the cakes of color lose somewhat of their freshness by constant exposure to the air and light, becoming dry and easily crumbled, they should be kept in a covered box. One that is flat answers best, and should have a hinged lid for convenience.

Brushes and Implements.

Sable brushes are not only the best adapted to water color painting, but indispensable to the production of good work. Sables are made of black and red hair, the former being held in regard for having better points, carrying the color, and working more freely; and the latter for possessing greater stiffness, and capacity for working when body-color is used.

Compared with these, camel-hair brushes are worthless; although it is desirable to have a few of large size for use in broad washes where smoothness is required; but they are deficient in the elasticity requisite for other purposes. A *flat* camel-hair brush, in tin, is also a useful and necessary implement; not only for laying broad washes of color, but for damping the paper, when necessary, before washing; as well as for softening, where the effects may be too harsh and heavy.

It is vastly preferable to use brushes which have the hair inserted in ferrules instead of quills, on account of their not being liable to split,—a fault rather common to quill brushes,—while they also derive much value from the cir-

cumstance that they admit of being made so effective in a broad *flat* shape, and well adapted to working backgrounds, skies, foliage, etc.

In the purchase of brushes, test them by dipping into clean water, and see that they readily come to a point, and have no straggling hairs about them. Good sable brushes, when completely filled with water, will allow you to suddenly fling off the water, and instantly spring back again to a straight point. In working, all brushes, whether round or flat, *should* return to their original shape after every stroke.

Be particular to obtain *good* brushes, for superior work cannot be produced with inferior ones. In time the original point will become blunt from constant use, and unfit for manipulating the finer touches; but it will yet be found well adapted to different grades of stippling, and for the larger handling.

It is recommended as a general thing, that the student should cultivate a disposition to use the larger-sized brushes, as far as his work renders it practicable, in order that he may acquire freedom of breadth and firmness of touch; avoid mincing, and a harsh, line-like manner in his work.

Palette, etc.—Palettes, and tiles with divisions, made of chinaware can be purchased, and will be found convenient. It is also desirable to have a number of small-sized smooth white plates, or saucers, in which to mix the larger washes. In the absence of all these a common white plate will answer.

Do not use glass, for this is too smooth to grind off the color; and being transparent, it prevents one from judging the exact shade of color wanted.

Other Implements.—It is necessary to have a flat *Drawing Board*, upon which to fasten the card-mounted photograph. The most convenient method of doing this, for the smaller sized pictures, is with *Thumb Tacks*. The Board should be made of well-seasoned wood, entirely free of

knots, and is essential, whether the work be done at an *Easel* or upon a table. The Board should have its corners perfect right angles, and its edges true, so that in using the *Square*, the lines will be thoroughly and geometrically correct.

If the desk or table be preferred to, or more convenient than the easel, a piece of clean paper should be kept over the lower part of the work, on which to rest the hand and forearm whilst painting; otherwise, it may become greased or soiled by the hand (especially in warm weather) and not receive the color well.

It is best, however, to use the *Easel*, and to support and steady the hand upon a flat ruler or a *Rest-Stick*. This position is not only more healthy than any other, but it enables the student to see more of his work. Instead of leaning over the picture if it be upon a table, it can be brought close to the eyes, whilst between the legs of the easel it does not interfere with an erect position. It also permits the work to be placed at an easy inclination and whatever height is necessary — advantages not to be overlooked when very large pictures are to be taken in hand.*

A *Flat Ruler*, a *Right Angle*, a T *Square* with bevel head; together with a *Ruling Pen*, and *Compasses* (dividers) with pen and pencil shanks—are all necessary instruments for drawing in panelled backgrounds, columns,

* In *my own* practice I use an easel, sit in a strong arm-chair, and have my materials upon a small table at the right side. By this I not only secure the good posture and facilities which the easel affords, but an advantage of the table also; for, in making large washes, rubbing on pastel, or doing anything that requires horizontal support, I rest the bottom of my drawing-board on the arms of the chair and the top on the easel-pins, thereby obtaining whatever inclination of my work is necessary. The flat ruler, say three feet long and two inches wide, laid across the easel-pins, makes an excellent support for the arms during the tedious stippling, etc., on small-sized work.—G. B. A.

doors, windows, balustrades, and other accessories which require mathematical and architectural precision.

An *Eraser*, *India-Rubber* (white preferred) and a *Crayon Stump*, suggest their uses respectively. A small *Spatula* or palette-knife will be found most convenient for reducing and mixing the shades of pastel. A *Magnifying Glass* of some kind is almost indispensable, not only to assist—and consequently *save*—the eyesight in minute working; but also to serve for the examination of originals, when indistinct or very small, of which a copy is to be painted or retouched. The magnifier should be of a good size, and provided with a handle so as to be held conveniently with the left hand while working. In coloring Porcelains, it can be made particularly serviceable, facilitating the operation, and affording an easy means of producing exquisite fineness.

Gum-Water and Ox-Gall.

In addition to colors, brushes, etc., it will be necessary to have some gum arabic, in solution, for use in improving the deep shadows of all draperies, and other purposes. Although a variety of things are used for this result, gum Arabic is the *best* adapted for general use with water colors. It does not degrade the more delicate pigments, and yet bears out the colors well.

The strongest gum-water ever necessary, may consist of one part gum and three parts of pure water, though it may be used much weaker. Gum should not be mixed with water containing any mineral properties. The solution can be preserved for use by the addition of a small portion of the carbonate of ammonia; one scruple of the powdered carbonate to an ounce of the gum, dissolved by maceration in two or three ounces of cold water.

As will be learned hereafter, the gum-solution is not to be applied until the coloring is finished, and then sparingly, as

an excess of it is likely to crack, and it also gives a vulgar effect.

The process of making pictures on *Albumenized* paper has become so universal among photographers, that, unless special directions are given (or it is previously understood that the picture is to be painted) they are never made upon what is designated "plain" (or *not* albumenized) paper. Hence, if the photograph in hand be one of the former description, it will be found that the water-color will neither sink into, nor even flow upon, the albumenized surface. To remedy this difficulty, *Prepared Ox-Gall* may be used to "kill the grease;" and it is necessary to mix but very little with the colors to effect the purpose. A simple dip of the tip of your brush into the preparation will suffice.

Whilst it is indispensable in washes, it is not necessary for color which is to be stippled on. Never use it in color intended for "plain paper." ☞ *Wash the brushes well* after working with ox-gall.

Pure Water.

It is essential to use water that is entirely free from ingredients that would be hazardous to the purity and permanency of the colors. In all hard and impure waters the colors are disposed to separate and curdle, so that it is often impossible a clear flowing wash or gradation of color can be obtained with them. The purest and best for the purpose are distilled and rain waters, by the use of which all chemical action is avoided.

Water-Color Varnish.

In order to guard against injury by accidental defacement, or any changes likely to occur by the action of the atmosphere, upon some of the most important and neces-

sary colors employed in photographic painting, the propriety of obtaining an unobjectionable varnish for this purpose engaged the attention of the most eminent colorists.

After a variety of experiments, Mr. F. A. Wenderoth, a distinguished Philadelphia artist,—to whom the profession is already indebted for important discoveries—succeeded in composing the Varnish which bears his name, and which unites the requisite and desirable qualities sought.

This preparation, if rightly applied, secures the painting against detriment by water, acids, and atmosphere, without attacking the opacity of the paper or giving a perceptible gloss. In cases also where the surface of the paper has been injured by rubbing, a little of this varnish first applied will permit the colors to be used without spreading. It is colorless, dries quickly, and is warranted not to change. On glossy surfaces it can be flowed over the picture; on dead surfaces use a flat camel's-hair brush; one coat is sufficient; lay the picture horizontally to dry.

Arrangement of the Light.

The window through which the light is admitted to the studio and upon the work should be at the *left* hand, and rather to the rear than front. However, whilst it be arranged rearward to avoid light in the eyes, be watchful also that the head shall not in the least degree shade the work.

A window facing northward is the best, on account of its avoiding direct sun*shine*, and furnishing an even sun*light*. A high window is also better than a low one, and the light should be made to enter from its upper half or third part; the remainder being covered by a dark curtain, which should be raised or lowered according to circumstances.

It is not best to work in a very strong light; it will beget extreme particularity and hardness of effect, while a more subdued light is likely to induce breadth and softness. This is especially the case with large pictures. Another advan-

tage of subdued light will be apparent when working up very bad copies; the *location of half shades* will be discerned, the presence of which would not have been suspected at all in a stronger light. Indeed the size of the work in hand should always govern the movable curtain—"*so* let your *light*" be.

Pigments, their Qualities and Adaptations.

Of the colors mentioned in a previous chapter, it is very necessary to inform the student respecting some of their more prominent characteristics and particular uses. While these directions, obtained from the experience of others, may serve as a *basis* of operations, the student is still expected to complete the work by his own practical discoveries. In so doing, he will be surprised to find that the uses of a color upon clean white paper cannot always be taken as a criterion for its application to a photograph; and that, indeed, the photographic base will sometimes totally defeat an effect which, on white paper, would be easily achieved. So that, beyond all here written, there remains, necessarily, a conclusion which *he* must give to this chapter.

Having already classified the colors as to their importance, and desirableness, they will be referred to here in alphabetical order.

Bistre.—A fine brown color that washes well, is permanent, and has a clearness which is well adapted to architectural subjects. It is applicable for the shadows in flaxen hair, on account of its slight inclination to green.

Brown Pink.—This orange-green color is a vegetable pigment, and almost indispensable in landscape, affording many rich foliage tints for foregrounds. It may be modified with Burnt Sienna; and if a little Indigo be added, a warm green is produced. It can be used in flesh to bring up very dark shadows, if such exist, in the photograph;

combined with Pink Madder it forms a valuable flesh shadow-tint.

Burnt Sienna.—A very rich, transparent, and powerful orange-russet color, sometimes admitted into warm or very dark complexions, and is much used in every branch of water-color painting. It serves for the shadow tints of amber-colored draperies; and in painting out-door scenes or landscape backgrounds, it yields fine olive greens by admixture with Indigo, or any of the deeper blues; and these tints may also be saddened into fine olive neutrals by the addition of Sepia. It is inflexibly permanent, and washes and works with great facility. Can be used for deep lines in the flesh—as between the fingers, wrinkles in shadowed parts, etc.

Burnt Umber.—A quiet yellowish-brown color, affording clear and warm shadows. It is apt to look rather turbid if used in great depth, but it washes and works beautifully, and is indispensable in buildings. It is a very useful color for some of the lighter shades of brown hair, for curtain-draperies, and for the deep shadows of gold.

Cadmium Yellow.—A splendid glowing orange yellow, whose durability can be relied on. It is extremely brilliant, and nearly transparent; which qualities make it invaluable where a gorgeous effect is to be produced. It is the very best vehicle for obtaining orange tints, works and washes well, and is the most serviceable yellow for rich draperies; but it is rather too powerful for flesh, and should not be used unless its effect is thoroughly understood.

Carmine.—This well-known, brilliant, deep-toned crimson possesses great strength in its full touches, and much clearness in its pale washes—although not equalling Pink or Rose Madder in this latter quality. It flows and works extremely well, but it is even *more fugitive* than Lake; owing to which qualities the propriety of using it *at all* in

flesh tints is very questionable, whilst the Madders can be recommended to supply its place. Its use should be confined to drapery and brilliant touches, although for the sake of durability it is best to "choose the lesser evil," and be content with Crimson Lake.

Chinese White.—This very eligible material, prepared from the oxide of zinc, is of the greatest importance to the artist in water colors. It is prepared beautifully white, and possesses the desirable quality of dense body; so much so, that it does not change in drying, and the painter's effects remain unaltered. It works and washes with great freedom, either by itself or in combination with other colors; has no pasty or clogging qualities, and its permanency is unquestionable. It is deemed so very superior to the imperfect whites formerly in use, that it has been universally accepted as the most valuable white pigment. When used in its pure state, its shadows ought to be cold. Mixed with local colors, it is the means by which high lights are generally produced. All cool high lights should be mixed with Chinese White. In portraits, its use is chiefly confined to the white spots of the eyes; to the finishing of laces, and the linen, and highest lights on gold ornaments, etc. It is also useful in correcting errors, and (if used in an extremely limpid state) for heightening complexions when the photograph is too dark.

Crimson Lake.—Is a beautiful transparent red, similar in its character to Carmine, but lacking the extreme richness and brilliancy of the latter. It is generally useful in all departments of the art, but especially so in mixing the various tints for draperies—especially the purples. It is not classed among the strictly permanent colors, and would be more durable if covered with a coat of Gamboge, but in this case it is likely to change from crimson to scarlet. If used as a shadow color with Sepia, Purple Lake is preferable—forming a tint of great use in flesh-shadows, particularly the

heavier ones. Lake and Sepia also form a good compound for the lines of the eyelids, nostrils, between the lips, fingers, and deep touches generally. It is a source of regret that a pigment of such general use and application, possessing such desirable working qualities and excellent hue, should not also be strictly durable.

Cobalt Blue.—Is a pure, bright, sky-blue color, nearly transparent, and the only blue pigment to be recommended for producing the grays and pearly tints in flesh. It is a very useful color in every respect, works well, and is quite permanent. With Indian Red it forms a standard shadow-tint for flesh, and with Brown Madder it affords a range of fine pearly neutrals. With Light Red in any proportion it gives beautiful cloud tints. It affords clear, bright tints in skies and distances, but is lacking in depth. It is slightly turbid when used as a strong wash, in which case French Blue would do better. Cobalt and Yellow Ochre may be neutralized, with a little Lake, into a most beautiful and useful gray. Cobalt very slightly tinged by the addition of Gamboge, makes a beautiful greenish cloud-wash for vignette heads.

Dragon's Blood.—A deep, rich, blood red, not in very common use, but of great advantage to those who understand its capacities. As a first-wash for a crimson curtain, it gives a mellow tone of exceeding richness; is important in obtaining the various hues of "wine color;" and is otherwise a very useful red. When used as a local color, shade with Crimson Lake, adding Sepia for depth. It may be also used for giving warm tones to India Ink.

Emerald Green.—Is a vivid green, for which no mixture will answer as a substitute, and which instantly attracts the eye to any part of the picture where it is used. It is very useful for the high lights of green stones in jewelry, silks, curtains, and carpets; and has the effect of toning down at

once, by force of contrast, all other shades of green near it. Mixed with Gamboge, very limpidly, it can be used as a wash for ladies' and children's dresses—the high lights for which should have Chinese White added to the local color.

Flake White.—Is the next most valuable to Chinese White. It does not possess the great body which characterizes the other, and cannot therefore be used for very heavy effects. Its lighter quality, however, renders it valuable for delicate touchings and fine handling—especially in obliterating objectionable spots in the flesh or increasing its high lights. It works nicely; and when a great deal of white drapery is to be painted, can be used with much advantage, as it allows the more potent Chinese White to be reserved for the laces and stronger effects.

French Blue.—Is much darker than Cobalt, strong in color, and nearly transparent. It resembles the tint of, and is considered a good substitute for, the real Ultramarine; and, although not so pure and vivid, is more generally useful. It washes and works satisfactorily, but should never be used for flesh neutrals in place of Cobalt. It is well adapted to figures, landscapes, and draperies; and, in the latter office, requires deep shadows, subdued with warm browns. It is inferior to Cobalt for aerial effects, and has a slight tendency to purple, which can be neutralized by adding a small quantity of Prussian Blue.

Gamboge.—A very bright and transparent yellow gum, inclining to green, and highly useful. It flows well, and the resin which it contains forms a kind of natural varnish, which aids in preserving its color. It is too "brassy" to be used in flesh-washes. In landscapes, and for draperies, it forms, in combination with Indigo, and French or Prussian Blue, a great variety of clear and cool greens; and with Sepia or Lamp Black, a very sober tint. Adding Burnt Sienna or Brown Madder to these greens, rich and

easily-varied autumnal hues are produced. It should not be used for distant tints. It is not entirely permanent, but nevertheless one of the best yellows for making greens. With Indigo and Lake it also produces gray and black.

Indigo—Is a vegetable pigment of a deep, slightly greenish blue, and a very useful color in compound tints. It is clear in all its shades, washes and works well, and is thoroughly reliable. Indigo is indispensable in landscape, and with Gamboge, Raw Sienna, Burnt Sienna, Roman Ochre, Yellow Ochre, it gives clear sober greens; and with Sepia makes a retiring green for distant trees. It is also a useful color for backgrounds when considerable depth is desirable. Indigo, Sepia, and Crimson or Purple Lake, form the best compound for black cloth drapery; and with these three any tone desired can be obtained. Warmed with brown it is also a good shadow color for blue (military) cloth. Indigo and Carmine make an excellent purple, and better adapted for draperies (being less gaudy) than Prussian Blue and Carmine. Indigo and Yellow Ochre, neutralized by Crimson Lake, make a fine strong gray, very useful for deep tones in clouding, and for a local wash in solid backgrounds.

Indian Red.—A very durable earth of a purple russet hue and good body. When rightly used, it produces fine clear tints in flesh, and when mixed with Cobalt it is one of the standard ingredients for the deeper flesh-shadows. It is much used for grays when mixed with Cobalt or Indigo, and neutralized by a little yellow. It is serviceable alone in painting the upper lip, which being usually in shadow, requires a dull red, although the tone may be enlivened with a little Crimson Lake. Some of the lighter flesh shadows —especially of children—may be done with it, but with delicacy.

Indian Yellow—Is a rich, intense, golden color, much used for draperies, and possessing greater body and depth

than Gamboge, forms, in combination with the same blues, a variety of more intense and lively greens. It is quite permanent, and washes and works to perfection. Its fine qualities cause it to be employed very generally in the flesh-washes, mixed more or less with Pink Madder and Venetian Red. It may also be used for warm skies, and, mixed with Chinese White, gives a durable high light for gold. Being very powerful and gaudy, care should be used in its application.

Lampblack.—An opaque black, not quite so intense or transparent as the old Ivory Black, but it is less brown in its pale tones. It has sufficient strength of body to obliterate every underlay of color, and is good for mixing with Chinese White to produce the gray high lights on black cloth and velvet. It may be used in lieu of, or in connection with, India Ink, for retouching photographs; and being free from the sometimes too gummy properties of the latter, it works kindly, also producing a more silvery effect. Where depth and opacity are wanted, it is *the best* black at hand, while its power may be further increased by the application of gum Arabic.

Lemon Yellow.—The lightest tint of the yellow chromes is very pale, lively, and entirely free from the least tinge of orange. It has not much power, and is semi-opaque. It may be employed for points of extreme high light; is quite permanent, and washes well if skilfully prepared. Principally useful in draperies, but must be used in thin washes.

Light Red.—A preparation of Burnt Ochre scarcely to be classed as a red; clear and transparent, but not bright; of a character similar to Venetian Red, but partaking of a russet-orange tone. Mixed with Cobalt, Rose Madder, and Indian Yellow, it yields fine gray shadows; and, with black, and Brown Pink, fine warm, near-tones in landscape. It is permanent and useful. With Pink Madder or Vermilion and a little Indian Yellow, it forms a good flesh-wash,

if properly modified. Too much of it in the face produces a coppery effect; and hence, when used alone, it is more desirable for the darker complexions.

Madder Brown, or Brown Madder.—This rich, laky brown is of intense depth, and transparent, affording equally the richest description of shadows and the most delicate pale tints. With Cobalt, or with French Blue, a set of fine warm or cool grays are compounded, in proportion as the brown or the blue predominates. It is quite permanent. Many of the deep shadow touches of the face may be done with this color alone. Sometimes used as a local wash for furniture-wood. This color may be so nearly supplied by a mixture of Crimson Lake and Sepia, that the latter *might* be used for large and deep-toned applications; but the fugitive quality of Lake depreciates the permanency of this mixture.

Neutral Tint.—Composed of red, yellow, and blue, in certain proportions, is a cool, neutral, compound shadow color, and useful as a vehicle for many other compound tints. It may be introduced into faces for softening the edges of the eyebrows and hair. With Burnt Umber it forms a beautiful, cool, light-brown hair-color, and with Sepia a cool dark brown for the same purpose. It is of advantageous use in cloud backgrounds and indispensable for softening the edges of the head and figure. Altogether, it is one of the most valuable pigments in the color-box.

Orange Chrome—Is, like Light Red, a tint of Yellow Ochre burnt—by which operation it acquires warmth, color, and transparency—and has many of the good qualities of its original, with greater power. It is the deepest shade of the yellow chromes; a very powerful tint, and opaque. When used limpidly, it is applicable to orange-yellow draperies; and, if used alone, delicately, or subdued with Burnt Sienna, it is good for strong reflected lights on the flesh.

It will be found a convenient preparation of orange, especially for touches.

Olive Green.—A fine olive green, of sober richness, much used in landscape. It is permanent, and, mixed with Pink Madder, makes a good clear shadow tint for certain parts of the flesh. With Sepia, it forms an excellent color for figure backgrounds, if washed on a dark base, and harmonizing well with the flesh.

Pink Madder—Is very delicate, and used almost entirely for the carnation tints in flesh, as well as for pink draperies. It is clearer in its pale hues than either Crimson Lake or Carmine, but does not possess intensity. On account of their superior permanency, all the colors prepared from madder are among the most valuable in the color list. With Cobalt it forms a most delicate lavender, and many beautiful tones of delicate gray.

Prussian Blue.—A deep-toned, brilliant blue, having a slightly greenish tinge, on which account it is not admissible for application in skies or flesh, where none but unalloyed colors should be used. It is generally adopted for blue draperies; and, when mixed with Carmine or Lake, produces all the tones of violet, lilac, and purple. With Gamboge it forms the most common green. When used for draperies, it should be warmed with a little Lake, to "kill" its intense cold and raw effect.

Prussian Green—Is a very beautiful color of a cool, deep-bluish tone; and its place might almost be supplied by mixture. It is, however, a convenient preparation for curtains, chair and sofa cushions, carpets, and leaves of scarlet flowers, the green stones of jewelry, and for sea-green silk dresses. For high lights, use Emerald Green.

Purple Madder.—An intensely deep, rich, and warm purple, affording the greatest depth of shadow, without

coldness of tint. The clearness and beauty of its delicate tones render it valuable in every stage of the work. With Indigo and Raw Sienna it gives beautiful shadow tints, and may be relied on for permanency.

Purple Lake.—A transparent, deep-toned Lake; useful in shadows of crimson and purple draperies, and good in making the Compound Black.

Raw Sienna—Is very transparent, but a rather impure or tawny yellow. It is mostly valuable in landscape, both in distance and foreground, and excellent for obtaining the greenish hues of water. It can be made very useful, but does not work very well, having a tendency to be uneven on the paper. It furnishes a good local wash over a dark ground, which is afterwards to be lined and panelled.

Raw Umber.—A quiet, yellowish-brown, not perfectly transparent; applicable for certain background-parts, and in landscape; but more particularly useful in the shadowing of light flaxen hair.

Rose Madder, or Madder Lake.—A rather deep tint of the same kind as Pink Madder, and for which it could be used. It is of universal application in all descriptions of water-color painting, because it works well, and is strictly permanent. It is an excellent color for glazing the under-lip, in portraits, and when used as a carnation for women and children, should be slightly mixed with Vermilion.

Roman Ochre—May be used sometimes for the yellowish tint in *very* dark complexions, and for draperies. It is deeper and more transparent than Yellow Ochre, and is, for many purposes, preferred to it. It makes the very *best* local wash for gold, and serves also for some kinds of flaxen hair, either alone or modified with Sepia. With Indigo it forms a valuable sober green. The Ochres are among the most ancient and valuable of pigments, and all are "broken" or indefinite colors.

Scarlet Lake.—More scarlet in its hue than Crimson Lake, but not so transparent. Very convenient and useful for brilliant crimson effects, and as a shadow-color for Pink (Madder) draperies.

Scarlet Vermilion—As already prepared, is far more effective and beautiful than can be produced by mixture, and must be ranked among the essential pigments, if for no other purpose than to heighten the effect of Pink or Rose Madder when used for carnations. It is the addition of the Scarlet Vermilion which gives that effect called "peachy," so admirable in the cheeks of women and children; but its opacity, heaviness, and power, require an extremely delicate application in flesh, or the worst consequences may result. It is also further useful for the most brilliant touches in flowers, draperies, and carpets.

[The Vermilions being so very hard, should be rubbed soft with the finger, so as not to wear out the brush.]

Sepia—Is, by far, the most valuable of the brown pigments, and is used for combinations more than any other color. It is cool, and, unless artificially warmed by mixing with other colors, it is of a dusky brown tint. Its light tints are extremely clear, but its coloring property is so very strong, that, unless used with great caution, it is apt to produce heaviness in the shadows. It is perhaps the best washer known to the colorist, and is transparent and permanent. It is useful as a general shadow tint for light backgrounds, and for scumbling. With Lake it makes an excellent tint, somewhat resembling Brown Madder, useful for giving the sharp touches about the eyes, nostrils, etc. Added to Lake and Indigo, it forms the "Compound Black"—a superb mixture for black cloth, silks, satins, etc. As a tint for the hair it is unrivalled, on account of its adaptability to either the lightest or darkest shades of brown. In landscape, with Gamboge, it affords a range of fine neutral

greens, which are permanent. With Indigo, it gives very cool dark greens; with Prussian Blue, a low olive green.

There are also two other descriptions of Sepia: one called Warm Sepia, the other Roman Sepia. They are tints compounded by the admixture of a red for the former, and a yellow for the latter, with the natural Sepia. The latter is a good color for yellowish-brown hair.

Vandyke Brown—Is a bituminous earth, very rich and transparent, and is named after the great master of the portrait art, on account of its frequent use in his works. It is permanent, and is employed in almost every department of water color. It is clear in its pale tints, and deep and warm in shadows. Valuable as it is, and the most beautiful brown the colorist has, it nevertheless works badly. With Lake it forms a good transparent tint, much used as a flesh shadow color; and with Indigo it gives very clear, sober, neutral greens for the middle distance in landscape. It is a very fine glazing color, and is well adapted for strengthening the shadow under the nose, glazing the darkest shadows of green draperies, and for painting "golden-brown" hair. Combined with Cobalt, it makes the most desirable of all shadow-tints for linen and white draperies, the effect being warm or cool, as the brown or blue predominates.

Vermilion.—A brilliant opaque scarlet red, of great body and weight. It varies much in its tone of color and in the facility with which it is worked; and as it does not flow well, is apt to settle away from other pigments, and totally lacks transparency, its use is rather circumscribed. Added to Carmine or Gamboge, it affords the tints respectively of Scarlet and Orange Vermilion. In a very limpid state it may be used for the flesh-washes of children and fair-complexioned women; but, as it is a very heavy color, extreme caution is required to do this properly. It is a good local color for the under lip, if applied thinly. In like manner it

is also serviceable to illuminate deep shadows under the eyebrows, nose, and chin. It is extremely heavy for draperies, but is well adapted for the brilliant touches in carpets, flowers, and otherwise, when effect rather than smoothness is desired. It cannot be used for grays or purples.

Venetian Red—Although deeper and purer, is very similar in its general character to Light Red, and is preferred by some as being not only a better color, but as working better. Its tints, though not bright, are clear; and, when mixed with Cobalt or French Blue, affords excellent grays. It is very permanent, and is useful and valuable as a tint for ordinary flesh-washes, with or without yellow. Heightened with Pink or Rose Madder, it makes another fine glowing hue for working the flesh, and applicable in some description of skies; saddened with black, it gives low-toned reds for buildings.

Yellow Ochre.—This sober broken yellow is employed for very many purposes, is permanent, works well, and is the most useful and valuable of all the Ochres. It possesses a slight degree of turbidness, and is esteemed for this very quality, which is considered to give it its retiring effect. It is useful in forming quiet greens for landscape. In portraiture it is used very thinly, for the local color of light flaxen hair, and in compounding the stronger flesh-washes for men. With Vandyke Brown, it furnishes a good yellowish drab; with Indigo and a little Lake, a strong and beautiful gray; and with Madder Brown, it furnishes the exact hue of Neutral Orange.

Handling or Manipulation.

Much of the freedom necessary to spirited and effective work, particularly in the matter of details, will depend on the care and attention bestowed upon the manner of using the brush.

The hand should be lightly rested, but it must be in such a manner as to secure the perfectly free action of the wrist, and of the fingers by which the brush is held. In holding the brush, the fingers should be kept as far as possible from the point; and it should be taken between the first finger and thumb, the middle finger being rather under it, and the third and fourth fingers gathered quite under and back. Try to acquire a full and firm touch with the brush, and do not work too much on the point of it. Wash it frequently by stirring in a glass of clean water, especially if you have been using gum Arabic, opaque color, or white. The habit, very general among water-color painters, of giving the brush a point by drawing it between the lips, is objectionable, especially when the saliva is permitted to saturate it. It is far better to draw the brush to a point over a piece of paper, kept at hand for this purpose.

Every beginner should endeavor, by continued practice, to attain that characteristic in manipulation which is denominated "breadth," by which the easy dexterity of the proficient is readily distinguished from the faltering and mincing touch of the novice. In a word, "breadth" is the *result* of *knowing* exactly *what to do*, and *doing it at once!* He must not expect either that he can acquire *immediately* or easily the necessary skill to accomplish the various processes of manipulation, although they are in fact simply mechanical. *Repeated experiments* will be necessary to produce satisfactory results.

The handling of water-colors is comprised in three principal operations, viz.: *Washing*, *Hatching*, and *Stippling*.

Directions for Washing.

To a looker-on, the process of washing, whilst it may seem to be the easiest, is perhaps the most difficult of the three methods of using the brush. To do it *well* requires an amount of quickness, freedom, and steadiness,—qualities

which can be attained only by incessant practice, and which are not found combined in every student's hand. Timidity in this operation is at once perceptible in the result: blotches, muddiness, streaks, and a general unevenness of color. In his first attempts, the student may feel disappointed if he does not attain the effect of equality and evenness, but this is not to be expected without considerable experience; and much dexterity of hand will always be necessary in order to avoid the blemishes already alluded to,—inequality of color, unevenness of tint, improperly-defined edges.

Where a large space is to be covered by a flat wash, it is advantageous to first go over the surface lightly with pure water, in order that the paper thus partially saturated may absorb the wash of color more evenly than if left dry; and not too rapidly to allow its being put into all corners of the picture. Remember that the flow of the wash can be regulated considerably by the angle at which the board is laid, and therefore the inclination of an easel will be found entirely too steep for large washes.

The tints should be all fully prepared beforehand, and then they should be laid upon the paper as rapidly as the requisite depth of tint and the preservation of the forms will allow, in order that the interstices of the paper may be well filled, and solidity of effect thus obtained. As a general rule, the brush should be tolerably full of color, so that it may *float freely*, for upon this point in manipulating, the *cleanness* of the work very much depends.

In laying on the tints, begin by planting them boldly, and at once, close to the edges of the space to be covered, and not by repeated touches, or by dragging the brush timidly backward and forward. It is also well to *stir up* the amount of wash prepared every time the emptied brush is returned for more color, as it keeps settling all the while. In passing the brush to and fro, whilst guiding the color-

wash as it flows, a tremulous or wavy motion of the hand will prevent the appearance of lines after the washed part has become dry.

To prevent a blotty appearance in laying flat washes, the student should endeavor to regulate the charging of his brush with color by the amount of space to which it is to be applied. If this is not done, and the brush is still charged, after covering the space intended, it can scarcely be taken off the paper without leaving a floating spot, or drop of color, at the point of removal. If this occurs, however, the floating drop of surplus color may be removed by absorbing it into the brush, made somewhat dry.

Whenever it is necessary to repeat a wash over the same surface, be careful to *wait* until the previous one is completely absorbed, or somewhat advanced in drying; else the after-wash may not only run irregularly, but, if the previous one has been strong in color, it will lift it, or "wash up." Neither is it well to mix colors on the picture by successive washes; the color should be definitely settled and prepared beforehand, or impurity will surely result.

In drying, the board should be kept at the same inclination (or a little less) as when the wash was applied. When absorption has ended, it may be laid entirely flat.

Directions for Hatching.

This is a process most generally executed upon a previous wash. It consists in the drawing of lines in such a manner as to produce an effect impossible with the wash alone. There are different methods of hatching, and probably every artist has his own peculiar mode; but the student is recommended to try as follows, which will, no doubt, give a sufficient general idea.

Work over the space to be hatched with short, wide, regular strokes, drawn firmly in rows, and so as not to leave little blots at the end of the strokes, at the same time following,

as much as possible, the general direction indicated by the form of the subject in hand. Hence, if hatching upon a flesh-wash, the direction would be horizontal on the forehead, perpendicular on the nose, and circular around the eyes, mouth, chin, and contour of the face.

[The little blots mentioned can be avoided—and should be—by using the color rather dry, and by pressing firmly on the brush at the beginning of the stroke, carry it on to the end, instead of beginning lightly and ending by a firm pressure.]

Having hatched these strokes evenly one way, after they have become dry, cross them with others, using the same firm touch; but *never cross at right angles*, or with lines too oblique. The appearance of the hatching should be tolerably open, in order that the local-color may not be entirely hidden, but not too much so.

The effect of hatching on shadows is to give them transparency, enabling the spectator to *look into* their depths,—a result which can never be attained by the use of flat color-washes alone. In clouding, around vignette heads, it is the hatching which will produce the mellow aerial effect, and without which the previous washes would suggest solidity or flatness.

Sometimes the hatching will appear too wiry, in which case wash it as many times as may be necessary with a clean brush just *moistened* with water, so as to *slightly blend* the lines. It may also happen that the tint is worked in too dark, in which case, hatch with clean water (without color), and, when perfectly *dry* remove the loosened particles of color by rubbing it gently with a soft handkerchief.

It frequently happens that when the picture is looked at under a light opposite to that by which it was painted, the hatching appears rough and very decided. For this reason it is advisable to place the picture in different lights, and work on it until it is perfectly smooth and even,—taking

care not to deepen the colors. This may be easily avoided by working rather *between* the hatching lines.

If the student will examine the manipulation of a good *Line* engraving he will obtain many valuable hints respecting direction and general effect.

Directions for Stippling.

This method is similar to hatching, except that, instead of lines, the color is worked on with *dots* and *touches* made with the point of the brush. Its effect is about the same as hatching,—to give depth and transparency, and at the same time retain greater purity of tint than could possibly be effected by any washing of mixed colors. It is considered the finest and most delicate of the three methods of handling, and is consequently the least expeditious.

Stippling is inseparable from flesh-painting, and may be considered the means, *par excellence*, by which to produce those soft undulations and indefinite shadows which exist in nature. As there are no lines in flesh, stippling is far preferable to hatching (except in very large-sized work, where mere dots would be too weak); the dots and touches being able to produce a granular appearance more harmonious with the quality and character of the thing represented.

In general practice, however, stippling and hatching have become confounded, and the united method is denominated in ordinary parlance "stipple." This nonconformity with the exact demands of each process may, after all, be well enough; and the student will find when he endeavors to paint flesh, that it will be somewhat difficult to progress in his work without involuntary falling into the adoption of a *hatch-stipple* manipulation.

Some painters, indeed, recommend the flesh to be painted, first, by hatching—keeping the lines rather square—and leaving the interstices to be filled up afterwards by stippling.

The effect of this is considered to be decidedly bold, and well suited to large work.

Unless the picture be very small, or the work be very fine, the student is recommended to use a medium-sized brush. The use of a very small one, or one having a fresh point, is likely to induce an excess of finish, which detracts from the results aimed at,—depth, solidity, and color. For general use, brushes which have been somewhat worn down to blunt points, will be found preferable.

Stippling, like hatching, must follow the line of the muscles, and must not consist of dots without meaning. The student should closely examine some of the best specimens of stipple engraving (those contained in the *London Art Journal*, for instance), and he will discover what a magical effect lies in the correct placing and disposition of the stipple dots,—how they should vary in size according to position in light or shadow, then "go and do likewise."

Practice with the Brush.

The student having learned *how*, it is supposed he will proceed to *do*. But there is much to acquire that should be done *apart* from, and as preparatory to, working on the photograph. This is particularly true in regard to *Washing* and laying on color in masses. A disposition to practice is highly valuable, and in order to aid and encourage such, the following extracts are given from Professor George Barnard, whose authority on this point is sufficient:

"Perfect freedom in all the motions of the fingers, hand, and wrist, and dextrous management of the brush, *should* be acquired *before* the student attacks the difficulties of color; and the time spent in practicing with Sepia or the neutral tints, with the view of gaining this facility, will be well bestowed."

"Sepia, without any admixture, is generally chosen as the

most suitable pigment for brush-practice, as its light washes are extremely clear, and it possesses great power. Its general color is not disagreeable in any part of the picture; and should other tones be required, it will harmonize well with Cobalt and the other blues which are used in the sky. The paper employed may be white or tinted; the latter, as it allows the use of Chinese White for the lights, is generally preferred.

"By these preliminary exercises much is gained. The pupil becomes acquainted with a few of the powers of the instruments he is principally to depend upon for his effects; his eye is trained to observe the minutest gradation in tone or color; he will also soon perceive that color has very different appearances when put on full or dry, when floated, blotted, or dragged; and the close observation that these exercises occasion will eventually produce more refinement in his work than if he hastily dashed in his colors at random."

The Duplicate Picture.

The student who looks forward to the coloring of photographs as a life-profession, may expect to work upon specimens of all grades, and many times with but *one* in hand. It is not always practicable to assist his labors by the aid of a *duplicate* picture.

The advantage of having the duplicate is, however, very considerable, and it is a good rule to insist, if possible, upon one being furnished with the picture to be worked up. In doing *large* photographs, it may be considered *positively necessary* to have the *head*, if nothing more; since, owing to the greater breadth of line and depth of shadow, there is strong liability to somewhat alter the direction of the one or to misapprehend the other. Especially is this duplicate essential in working Solar pictures, in which the definiteness of a contact print is wholly wanting, and where the diffusion

of line is so much greater than that which it is designed the pencil shall reproduce.

The expression of the eye, the line of the mouth, and other points which indicate the likeness, may be endangered, unconsciously, even when care has been exercised; but the duplicate, changeless before the student's eye, is a preventive which should be acknowledged and used.

Sometimes the gentler lines and undulations of the flesh or drapery disappear to quite an extent beneath the wash of local-color, and would be lost beyond recovery but for the assistance of the duplicate.

It is preferable also to have the duplicate made on *albumen* paper, because its finer surface is more likely to secure from the negative those delicate markings which, on the "plain" paper, do not appear at all, and which may serve very important ends in completing the portrait.

Furthermore, the duplicate picture is your *authority* for all that has been done, and in the event of harsh criticism upon the finished work, or denial of its correctness, it settles the case, and "makes assurance doubly sure."

Introductory to the Use of Colors.

If it were possible for all photographs to be made possessing the same degree of tone or shade of blackness, it would be an easier task to guide the student in the use of those colors applicable to the various parts of the picture. But the reverse of this is, unfortunately, the condition of things with which we have now to deal; and even an approximation to so desirable a state of photography as that first-mentioned is the lot of such only who paint for pleasure, and who are at liberty to *select* the photographs upon which they intend to work.

Those, however, who undertake this art professionally, will perhaps be called upon to-day to color a photograph

that may be dark as night; and to-morrow another as light as noonday. In one the gradation of tones may be lost in blackness by over-printing, and in the other there may be a deficiency of shades from lack of exposure in printing. A very common drawback to the artist's complete success arises from the use of photographs which are made "too intense,"—the whites too white, and the blacks too black,—and it is to be regretted that photographers, as a class, are not better informed as to the qualities essential to a *good* print for coloring.

In addition to such deficiencies and contrasts of shade, may be mentioned *improprieties* of *tone*,—that is, the presence of actual *tints* of purple, brown, indigo, and dirty red; or yellow, by discoloration.

In view of these irregularities which enter into the daily experience of photographers and artists, it would be in vain to say to the student, "Do *thus* and *so*." The alternative is simply for us to lay down *a general plan* of coloring; leaving to his own judgment and capabilities the *adaptation* of our teaching to each picture he may have in hand.

[For the reasons above-mentioned, it is also plain that very little advantage can accrue to a *beginner* who studies the various works on legitimate water-color painting, as they all refer to operations *on clean white* paper; for he will find that he must at last depend upon his own perception and judgment.]

A few months' study and practice, however, will render the application of the proper colors so easy and familiar, that the photograph will of itself suggest many of the tints necessary to give it depth, or relieve its blackness.

When the choice of the photograph is optional, we would advise the selection of a *light* one, in preference to a very dark one, as the former shows up the colors to greater advantage, and is devoid of obstacles to the purity of your work. Let its general tone be *neutral*—gray. It should be

well defined, having the middle tones and shadows clear, the background free from blemishes which cannot be touched out smoothly, and should be, indeed, *a good photograph*,—a thing almost indispensable for beginners.

Due attention should also be given to the suitableness of the photograph to the complexion and hair of the person; one heavy and dark-toned should not be used for a fair complexion and light hair, else it may necessitate the use of body color in working, which is very objectionable. If, on the contrary, the complexion and hair of the original be dark, the difficulty is considerably lessened; for, upon the application of the warm colors, these heavy photographic tones decrease in depth, and frequently assume a desirable shadow color. Photographs of women and children should, in general, be lighter than those of men, in order that their characteristic softness may be preserved, and more delicacy and beauty attained in the painting.

Flesh-Washes.

For convenience and ordinary practice, we may divide the complexions of both men and women into three general classes, respectively, and prescribe the colors which may be used in compounding the flesh-washes for each sex, as follows:

GENERAL FLESH-WASHES FOR MEN.

1. *Ordinary.*—Indian Yellow, or Yellow Ochre, and Venetian Red.

2. *Florid.*—Indian Yellow, Venetian Red, and Pink Madder.

3. *Swarthy.*—Yellow, or Roman Ochre, and Venetian Red; if very dark, add Indian Red; and for a copper-tone, add Burnt Sienna.

GENERAL FLESH-WASHES FOR WOMEN.

1. *Ordinary.*—Indian Yellow and Venetian Red or Vermilion.

2. *Blonde.*—Indian Yellow and Pink Madder; or Vermilion alone, if rightly applied.

3. *Brunette.*—Yellow Ochre, Venetian Red, and Pink Madder.

☞ These washes should always be weaker in color, and more limpid in quality for women and children than for men.

The flesh-wash should be thin and devoid of particles of undissolved pigment, and in order to be kept pure, should be mixed afresh for every picture. In some cases a limpid wash of Venetian Red alone will suffice for men, although the addition of any yellow gives it a mellower tone. In like manner a thin wash of Vermilion can be used for very fair complexions in women and children, but its opacity and turbidness require dexterous handling. If a very forcible tinge of Yellow is desired, add Cadmium, but remember its wonderful power, and that a very little will suffice.

In using the flesh-wash designated "ordinary," it may sometimes be desirable to impart an additional roseate tone, especially to females; in which case, let the first wash dry, and then go over again with a thin wash of Pink or Rose Madder.

Some artists use one of the Yellows alone for the primary wash, and afterwards hatch and stipple all the carnations and shadow colors upon this base. This course, if used, is perhaps best adapted to the more delicate treatment of children's faces.

Although it is desirable to obtain a satisfactory flesh-wash as a *basis* for subsequent manipulation, it is advisable that the student should *not* attach undue importance to it, as his after-work must necessarily obliterate its presence to a very great extent.

Carnation Tints.

The most proper, beautiful, and durable carnation tints are obtained with the Madders,—Pink and Rose,—combined with the Vermilions. Crimson Lake is an objectionable color on account of its purplish tone, and is not permanent. Carmine is not only too intense, but even more fugitive than Lake; and its use in flesh is not permissible *except* for the purpose of obtaining a climax, should the Madders prove inefficient. The striking effect called "peachy," occurring in children's cheeks, is obtained by the very delicate use of Scarlet Vermilion worked into the Madders already there, or mixed with them when first applied; but as this color is opaque and strong, it must be handled, in this particular instance, very lightly and judiciously.

In men's faces, the rosiness of the Madders and the brilliancy of the Vermilions may need toning down, which can be done with Indian Red or Venetian Red.

Shadow Colors for Flesh.

Properly speaking, there can be no *one* mixture for flesh shadow-tints, inasmuch as each shadow, in the face especially, not only varies from the others, but those in one face will differ from those of another.

The following combinations, however, are given,—leaving to the student their adaptation as he may be able to discern, according to circumstances. Crimson Lake and Sepia; Cobalt and Light Red; Madder Brown; Cobalt and Indian Red; Olive Green and Pink Madder; Indian Red alone; Vandyke Brown, and Sepia, both used as a *glaze*. In mixing these, the *warm* color must predominate,—the cold color will have its opportunity anon, when the grays are to be applied. With the foregoing the most important and characteristic shadows of the face may be put in.

Painting the Hair.

Painting the hair is by no means an easy task, with respect to its imitation of nature. The difficulty consists not so much in the coloring as in *the drawing*, by which is meant those light and heavy brush-lines which give the form, flow, and character of the hair.

The disposition of every student is, as it were, to define "each particular hair," instead of breaking it up into easy-looking masses. This error is most likely to occur in painting short hair, as in the eyebrows, mustache, and beard; in which cases much care should be used to avoid giving them a stiff, wiry appearance. The lines should not be made in continuous parallels, nor should the entire body of hair be painted so as to look like a solid skull-cover. However, these instructions find an exception in the front hair of most women and young ladies, where the hair above the line of the ears must be delineated with accuracy and smoothness; but at the parting this harshness can be somewhat modified by making the hair to blend with the scalp.

Curls should not all be perfectly cylindrical, as is too often seen, but made to differ in size, shape, and direction. They should fall in easy masses; should never drop or lie upon the neck in continuous parallels (like so many pipes); and should *never* run across the neck, producing a heavy dark line separating the head from the body! If curls appear as though arranged with precision, their stiffness may be somewhat remedied by the addition of a few straggling ringlets thrown into the corners and at the ends. A hard contour of the face may be improved in like manner, by breaking up the edge of the hair with small locks and ringlets; but make them round and graceful, and devoid of the appearance of single hairs.

Whether to apply the local color or lay in the shadows first, will depend entirely on the distinctness of the photo-

graph. It is perhaps the best plan when there are ringlets, curls, or (worse than all) frizzles, to define the principal shadows *before* applying the wash. Never mix any opaque color with the tint being used for the shadows, as they must always be kept transparent. The high lights must not be put on until the previous work is *dry;* then keep them thin, working with a bare pencil, so that the color of the hair may appear through them.

The outer circumference of the hair should be made "feathery," as in nature, and not be defined with such precision as to make the head look pasted against the background—especially when the head is surrounded by clouding; therefore use Neutral Tint, or gray, to give a softness around the outer edges. The softer the background about the head the finer and clearer will be the relief effect.

The natural gloss of the hair necessitates the use of gum Arabic water with considerable freedom. It can be applied with even additional strength in the heavy shadows, producing depth, and imparting a general brilliancy to the whole. Very little goes a great way, however, and it must be applied with caution, else the effect will be stiff and daubed.

The following directions are applicable to the general classifications of

Colors for the Hair.

Flaxen Hair.—Wash with Yellow Ochre, modified to the shade, if necessary, with Roman Ochre, and Sepia. Shadow with Raw Umber, or Bistre, which will give the greenish hue natural to the middle tones of this hair. If there are curls, the high light on them can be intensified with Yellow Ochre or Indian Yellow with White. Associated with blonde complexions and blue eyes, this description of hair is sometimes found almost white—vulgarly denomi-

nated "tow hair"—in which case use a very pale wash of Yellow Ochre. Raw Sienna and Sepia also make a beautiful sober flaxen tint, Sepia not being semi-opaque like the Ochres. Shadow with the same, Sepia preponderating; and, if the photograph be light and clear, the putting on of high lights may be dispensed with, leaving the local color to represent them. Roman Sepia used very thinly makes an excellent color for *dark yellow* flaxen.

[The *translation* which flaxen hair undergoes in photography has always been a source of trouble to the water colorist. Being required to produce a *light* tint where the negative has interposed the reverse, he discerns no alternative but a free use of body color; or else a previous working upon the negative itself (with lead pencil or blue paint), in order to obtain a lighter basis.]

Auburn, or "Golden Brown" Hair.—Wash with Vandyke Brown, if inclining to red; and Burnt Umber, if inclining to yellow. Shadow with Warm Sepia and Sepia. Lights should be made of a slight purple hue.

Red Hair.—Wash with Venetian Red and Vandyke Brown or Warm Sepia, for a red tone; Venetian Red and Burnt Sienna, for a yellow tone. Shadow with Sepia added to the local wash. For the lights, artists seem to have agreed upon a purple tint mixed with White. It would seem more consistent to heighten the lights by deepening the shadows, because it is rarely an object of ambition to possess hair of this kind. Its more conspicuous tones should be subdued, and *never* exaggerated.

[The general tone of so-called *Red* hair is rather *Orange*, and the true *philosophy* of color would dictate that, if exaggeration is *not* desired, its complementary, *Blue*, should be kept as far as possible from it. Despite this, however, it is almost the universal custom for ladies who possess this color of hair to wear *blue* bonnets and dresses; and artists

are thus compelled to introduce this objectionable color into their work, the result being only to *heighten* the fiery appearance of the hair-tint. *Green* would soften the force of the red, and be vastly preferable. Correct taste would suggest to the student that he should neutralize or "kill" it, by placing white ribbons or bands near it, which would make it appear darker; or by *overwhelming* it by the introduction of *a positive red* among the accessories of the picture.

"It is an ill wind that does not blow *good* to *somebody;*" and so here, the relentless camera which deteriorates Flaxen hair, *improves* Red hair,—*restraining* the artist's efforts to render to the former its natural brilliancy, and *assisting* him to control the offensive prominence of the latter.]

Light Brown Hair.—Wash with Bistre and Sepia mixed, or with Bistre alone, if a greenish tone is wanted. Shadow with Sepia. Other shades of this hair-color are found in Burnt Umber, Roman Sepia, and Burnt Umber or Vandyke Brown and Neutral Tint mixed.

Dark Brown Hair.—In general, the local color is found in Sepia alone, which can be lowered still more in tone by the addition of Neutral Tint. Shadow with same; and for deeper effects add more Neutral Tint. Lights gray, put on very thinly.

Gray Hair.—Work with India Ink and very thin Neutral Tint, which may be warmed in accordance with the tint desired by adding a little Sepia. Shadow with Compound Black, the Sepia predominating; and Lampblack for any further depth and strength. Lights normal gray, intensified by Chinese White.

[It may be opportune to remark, that a white cap upon the gray hair of a lady will render the gray less conspicuous; whilst the contiguity of black, as a black cap or ribbons, will render it more apparent than may perhaps be desirable.]

The White Hair of venerable old gentlemen should be worked with gray formed of Cobalt and Vandyke Brown, letting the brown appear most in the retired parts. For the few deeper lines, use India Ink or Neutral Tint; the prominent white parts, Chinese White. In manipulating this hair, avoid hard lines and a bristling appearance. A pure white, silky effect will be much more acceptable, and characteristic of the placidity of extreme age.

Black Hair.—Although the deeper shades of brown hair are commonly denominated "black," there is still that which is known as "Raven Black." This may be produced by a wash of the compound black (Indigo, Lake, and Sepia), but of a cool tone. Or, if the photograph be very dark, a strong wash of Neutral Tint, with a little Sepia, may suffice, imparting the bluish tone, as in nature. Shadow with Lampblack and Sepia, or the former alone. Lights, Neutral Tint and White. The shadows can be further worked with gum Arabic, for strength and definition.

[If the natural gloss of the hair produced an excess of high light in the photograph, it will be necessary to first go over this light with a wash of Lampblack: this is not unfrequently the case.]

Painting the Eyes.

The eye is the *life* of the face. Hence, to achieve excellence in the correct painting of this important feature, will oblige the student not only to be an observer of the various descriptions of eyes, but he should also understand something of the philosophy of its construction as the organ of sight. Without this, there will be a constant liability to distort the shape of the eye, and give it a false expression.

In painting the eye,—after designating the line of the eyelid,—first draw, as finely as possible, the circumference line of the iris or colored portion of the eye. This is advis-

able, because it assists in locating the pupil in the exact centre; and this may now be put in with Lampblack, no matter of what color the iris is to be. [An exception to this rule may sometimes be made in the case of *very light* blue or gray eyes, where a jet black pupil might appear too harsh and decided, especially if the expression is soft and mild; in which case it is better to use Sepia alone, or combined with Neutral Tint, for the pupil.]

It will be remembered that, as the iris is, in general, partially hidden by the eyelid, the pupil must be located *in the centre, with respect also to that portion which is covered.* It should be made somewhat larger too (especially in that eye nearest the light) than it is found in the photograph, where it appears small, on account of the contraction of the iris as affected by the strong light under which the negative was taken.

[In some photographs it will be found that the light striking the ball of a rotund or protruding eye, totally covers and obliterates the pupil, and gives to the eye an appearance of blindness—particularly the case with dark or black eyes. This is a disgrace to the photographer and an affliction to the artist, and one of those incurable cases referred to under the head of "Portraiture." The moment a pupil is introduced, flatness occurs, and the expression is altered; hence it is better to *endure* the fault than to make bad worse by endeavoring to *cure* it.]

Now wash in the local color of the iris, and follow with the shadow-tints, as prescribed hereafter. By this time the high-light or white-spot of the eye has been somewhat obliterated; but its exact position must be *remembered*, unless there is a duplicate photograph by which to guide the working. If this local color *does not* entirely obliterate the white-spot, do so with a slight use of color, or Lampblack, which is opaque. In the absence of a duplicate, the intelligent student will, in most cases, be able to re-locate the white-

spot by judging the direction and manner in which the light falls upon the whole face and picture.

Our reason for *recommending* that the white-spot be *painted out* is, that in photographs *it is always too large!* and it can be easily restored, with additional brilliancy, by using Chinese White; and further, because it would be an excess of trouble to reduce it in size by working around it.

In adding the light-spot, it must be done with a good pointful of White, and by a single touch—or at least seem as though it was so done—and for this purpose a rather blunt brush is preferable. The spot should be located upon the iris, just *at the edge of the pupil*, in the direction whence comes the light into the eye; and the student will discover that to place it *correctly* is no less easy than it is simple and delicate. He will perhaps create many squinted and blind eyes in his first attempts, but the alternative is to paint out with the local or shadow color of the iris, and try again. The white-spot must not cover the pupil in the least degree. In the larger-sized heads, however, it must not be located precisely in this way, else, when viewed some distance off, it will appear to be *on* the pupil. Allowance must therefore be made for this circumstance.

That portion of the iris which lies in a direct line opposite the high light, must be *illuminated*, as it is seen in nature, and without which the painted eye will look opaque and very dull. In most cases this is done by simply adding Chinese White to the local color of the iris; or that part of the iris may be *reserved* light in the previous shadowing; still, the first method imparts the most *life* and brilliancy.

The sclerotica, or "white of the eye" (as it is commonly called), is *not* to be made *white*, or left so in the photograph; but modified with blue for children and young persons; a pearly tint for middle life; and a slight yellowish tinge for aged people. The eye is also most pleasing when the effect is soft; therefore, if the edge of the iris be too rigidly de-

fined upon "the white," it is well to soften it with gray or Neutral Tint.

The caruncles, or red fleshy substances within the inner corners of the eyes, will require some bright color. Use Venetian Red and Pink Madder, or the Madder alone. If the corner be dark, use Vermilion—carefully. A little cool green may sometimes be stippled around the socket of the eye; and if the upper lid be hanging (as in looking down), touch the edge of it with Indian Red.

The different colors of the human eye may be classified by these general terms: Blue, Gray, Hazel, Brown, and Black. The pigments to be used for each kind are prescribed as follows:

Colors for the Eyes.

Blue Eyes.—If they are *light* blue, use thin Cobalt; shadow delicately with the same and a touch of Indigo; and add White to Cobalt for the illuminated part of the iris—if it is not left sufficiently clear in the photograph. If they are *dark* blue, use a deeper tint of Cobalt, and shadow with Indigo. If "deeply, darkly, *beautifully blue*" (as are some children's eyes), the effect can be heightened by using French Blue; but carefully, as it is a powerful color.

Gray Eyes.—Define them delicately with India Ink and a slight tinge of Cobalt. If of a bluish-gray, use Indigo in lieu of the Cobalt. Add White for the illuminating. Gray eyes often change to yellow-hazel as the person grows older, and are to be painted in this transition state by tinging the illuminated part slightly with Yellow Ochre, which will produce a greenish-yellow tone.

Light (or Yellow) Hazel Eyes.—Use Yellow Ochre and Neutral Tint for the local color. Shadow with Vandyke Brown, and illuminate delicately with White added to the local.

Dark (or Brown) Hazel Eyes.—For the local color, use Vandyke Brown, or, if the print is dark, Burnt Sienna. Shadow with Sepia. Illuminate with Burnt Umber and White; sometimes Burnt Sienna and White.

Black Eyes.—Although all dark-colored eyes are generally called "black," reference is now specially made to that description of eye which has its iris of so deep a brown as to be scarcely distinguishable from the pupil! They are peculiar to brunettes, and people generally who are from tropical countries. Use Sepia and Vandyke Brown for the local color. Shadow with the same mixed with Lampblack. Illuminate with Burnt Sienna and Chinese White.

Painting the Cheeks.

The nearest approach to the color of the cheeks will be found in a mixture of Pink Madder and Vermilion, either color predominating according to the subject. It should be kept in mind that children should have more Vermilion, adults more Pink Madder, and old people more of a purple tone,—this last being made by adding a little Cobalt to the former mixture, provided the photograph itself does not give a bluish tone.

Remember that the use of Carmine or Crimson Lake is not recommended for carnations; the one being too bright, the other too purple; and both are fugitive. On the contrary, *all* the Madders are *durable*, and in every respect better. Pink and Rose Madder, seeming to differ only in intensity, may be used according to the option of the student. Either can be used for men, but Vermilion should be added for women and children.

In applying the carnations, observe the grades of color and light on the cheek-bones; and do not lay out the cheek-tint in a circular, but in a triangular form, having its angles at the temple, lower jaw, and the nostrils. In no case should

the carnations be washed on, but *always stippled;* and in very large pictures they can be hatched.

Painting the Chin.

In nature, the chin being somewhat of a redder tone than the surrounding color, it is to be treated in like manner as the cheeks, though in a very slight degree; and care should be used not to commit the error of over-tinting this feature.

Painting the Lips.

The upper lip being nearly always in shadow, is both darker and less bright in color than the lower lip. If the mouth in the photograph be not too dark, use Indian Red, with a little Crimson Lake, for the upper lip; if dark, use Rose Madder, heightening it (if necessary) with Vermilion. For the lower lip, wash it first with thin Vermilion, or Orange Chrome and Rose Madder, and in either case model and shade it by stippling with Pink Madder. Observe that, in painting both lips, the more distant parts are to be less vivid in color.

The lips of children require more Vermilion, and of aged persons more Pink Madder,—not unfrequently approximating to a purple hue.

It will be advantageous to remember, in using all the carnation tints, that, as these reds will lose somewhat of their intensity by time, they should be painted a little brighter in color than they are in nature, to allow for this loss.

The painting of the mouth is perhaps the most delicate and hazardous of all the features, on account of its variableness of expression. In defining the partition-line between the lips, the slightest deviation will alter its character and damage the portrait. Especially so with the *corners* of the mouth, wherein most of the expression lies. Consequently, it behooves the student to study well its distinctive marks,

as photographed, before commencing, and work throughout with the utmost care.

Painting the Ears.

In painting the ear, which is semi-transparent, let the shadows be made warm and inclining to red. The inside of the ear should be colored with Pink Madder and Indian or Venetian Reds, and the tips with Rose or Pink Madder alone.

The ear should always be well toned down, in order that it may be secondary to the more important lights. A large or prominent ear is, in nature, ever an ugly, unsightly object; it is an organ without being a feature. If practicable, it is more judicious to partially cover it with the hair,—which can be done in most pictures without materially changing the drawing.

Painting the Neck and Bosom.

The general tint of the neck, it will be observed, is, in nature, much below the general color of the face, and invariably of a grayer tone. The flesh-wash might therefore be somewhat reduced for the neck, and the pearly tints added to a more considerable degree. The clavicles or collar-bones, peering through the flesh, are to be sometimes tinged slightly with Pink, but great care should be used to avoid rendering them too distinct and angular. The shadows of the bosom are usually of a bluish tint.

Although a well-curved neck, and round, plump shoulders do not, by any means, appear in the majority of photographs of ladies so taken, the colorist may very safely assume the privilege of *correcting* the drawing of his picture, so as to produce these desirable elements of physical beauty. Few ladies will *object* to any roundness of the neck or graceful droop of the shoulders which it may be possible for the

artist to bestow on their pictures. Some delicate touches of Pink Madder can be put on the extreme point of the shoulders; whilst Indian Red and Cobalt will serve to shadow the flesh around the arm-pit.

Painting the Arms and Hands.

The foregoing remarks apply somewhat to the painting of the arms, although the lower arm often partakes of a very slight purple hue. Indian Red alone can be used for the first tints, working over them, when necessary, with Blue; and observing the reflected lights, which are always to be kept warm. The elbows should be tinted with Pink Madder, but delicately; and any disagreeable angularity should be rounded off—as before observed, concerning the shoulders.

The Hands, in most photographs, by reason of their distance from the focal point of the camera (generally directed to the face), are disagreeably enlarged; and in most cases partially shadowed. For these reasons, it is often desirable to cut them down, shorten the fingers, cover them with thin drapery, or "paint them out" entirely.

The division-lines of the fingers may be drawn with Brown Madder and Pink Madder, or Sepia and Crimson Lake. The tips of the fingers, the knuckles, and the outside of the hands, are more rosy than the other parts, and require to be hatched with a little Pink Madder.

A liberal use of Cobalt in the hands is also recommended —particularly for those of women and children—in order to attain clearness, and the appearance of veins. This effect is also more necessary for *female* hands, the skin of which is intended to seem very fair and transparent.

The general tone of color in the hands should be very much below that of the face (except when the head rests upon one of them), so that they shall not first attract the beholder's eye—which *ought* to be drawn involuntarily to the face—the portrait!

Grays, Pearly Tints, etc.

The uneducated eye sees nothing more in the human face than the general or local color denominated "flesh;" but among artists the varied hues which go to make up the entire complexion—in addition to the shadows and carnations—are known as "pearly tints," "grays," "middle tones," &c.

These, intervening between light and shadow, should *never* be made so decided or violent as to impress the spectator with the notion of an actual presence of blue, or purple, and sometimes green; but while *the effect* must be *complete*, the tints themselves by which said effect is obtained should be worked in very adroitly and with as much *cleanliness* as possible.

The delicate shadows of the forehead contain more gray than those of the lower face; the half-shadows under the eyes are more inclined to purple; but whenever the deep shadows blend into the local flesh color, there will also be found a lilac or a gray, according as the complexion is light or dark. With many artists the lilac or pearly tint is in great favor, especially where the complexion is delicate and the skin transparent, as in children.

The various degrees of these tints will be found by mixing Cobalt with Indian Red and Pink Madder, to obtain hues of lilac, purple, and gray; and these can be neutralized to a *cold* tone by adding a very little yellow.

Neutral Tint alone furnishes a beautiful cool gray, and is especially useful for softening the edges of hair and blending it into the flesh; but Cobalt should be added as it approaches the highest light. Much of the gray effect is obtained by simply working Cobalt *over* the reds previously laid, but this must be done understandingly, or *dirtiness* is sure to result.

It will, perhaps, surprise the student to learn how much

of a *good* painting is made up of shadows, gray and pearly tints, and how far they go towards forming one harmonious whole. Grays are *not* intended to *hide* the local color, but rather to be *passed over* it as a glaze; and, therefore, in laying them on, particular care must be taken that the under-tints be not disturbed; otherwise the grays will be muddled and rendered opaque, which is always to be avoided, as it is intended to show the flesh-color *under* them.

The student will note, that the delicate blending of these pearly tints into the flesh and shadows, gives softness and rotundity to the work; for, if the shadows be left hard against the lights, not being duly graduated into them with the pearly tint, the pictures will appear crude and harsh, wanting the connecting link which these intermediate tints form.

These tints appear to differ also according to complexions, but the difference is carried more through the local color which they are laid upon, than any real alteration in themselves; as a consequence, therefore, when the flesh is very powerful in color, the grays must be correspondingly strong.

The following observations, by Prof. George Barnard, are no less appropriate than valuable in this place:

"Respecting the colors or tints of flesh when examined closely, we shall, doubtless, find that many of the most beautiful and delicate of the tones on the human face are referable to the effect of simultaneous contrasts; thus, at the edge of shadows on a skin of warm, rosy color, is observed a cool gray and sometimes even a cool greenish tint, these becoming more particularly visible when the surface is rounded like the face. Where the light passes into half-light, or where the light and shade meet, there will be these cool tones; and, if the complexion is *red*, they will, from the complementary action, have a tendency to green, however unnatural such a tint may be considered on the face. If the com-

plexion incline to yellow, or orange rather, the edge of the shadow will incline to blue. Some portion also, of these peculiar gray tints, may be owing to the semi-transparent nature of the skin, as well as the degree of gloss on its smooth surface, which reflects the cool lights of the sky. When these slightly green or gray edges of shadows are put in, they must be decided in their form and position, and pure in tone, or they will lose all effect. If dirty or undecided, it is almost needless to add they are worse than useless."

Touches.

By the term "touches" we designate the darkest parts of the features where the expression is concentrated, the high lights, and other salient points which give life, spirit, and intelligence to the whole countenance, and decide its portrait and character.

Some of these must be defined at first, in order to preserve the drawing of the photograph, whilst others are to be added at the conclusion, as a *coup de grace*. Among the former may be mentioned the upper eyelashes, nostrils, line of partition between the lips, and the line under the chin and ears. Burnt Sienna and Brown Madder, or Lake and Sepia, furnish mixtures suitable for this purpose. When the shadows are very dark (as they are indeed too often), use Vermilion thinly to bring up the dark parts.

Among the after-touches, the points of high light on the forehead, and bridge and tip of the nose, may be obtained, in part, by rubbing out the flesh-wash nicely with clean India-rubber; but this must be done softly, so as not to mar the surface of the paper. This effect may also be further heightened by applying Flake White, with great delicacy. The after-touches about the mouth, which is the most changeable of all the features, must be very carefully done, as they will determine the general expression.

Other of the after-touches in water color painting are produced by simply going over the part with a very thin solution of gum Arabic. As water colors dry without gloss, this application gives depth to the extreme shadows, and adds a general brilliancy; but guard against a tendency to overdo it, for, on the whole, the *less* gum that is used *the better*. In finishing the eyes, hair, jewelry, and anything which has a gloss in nature, it can be used more freely, and is indispensable.

The Selection of Colors for Drapery.

It is not at all an unfrequent circumstance that photograph painters are desired, and even necessitated, to choose the colors for the drapery of the work in hand; although the general practice is to obtain full directions, on *all* points, from the originals or their friends. This is decidedly the *safest* plan, as it is not impossible that the painter *might* select a color which the original *never wore* (perhaps disliked); whereas the painter's duty aims *to realize the exact life-look* of his subject.

The object of all decoration in dress being to improve or set off to the greatest advantage the personal appearance of the wearer, it follows that the colors employed should be *suitable* to the complexion, in perfect harmony with the rest of the attire, and have reference also to age and condition.

In regard to pictures of men, there is scarcely room for choice; and hence the student will have no difficulty in adapting the few sober colors, which the palette affords, in addition to the "customary suit of solemn black." But for pictures of women and children, the opportunity of selection is a great one, and furnishes ample scope for the display of knowledge and taste.

For the benefit of those who have not previously regarded colors in a *scientific* or *artistic* light, it may be very proper

to add some general directions relative to the juxtaposition of complexions and their appropriate drapery-colors.

The following paragraphs are condensed from the excellent treatise by M. E. Chevreul, the Philosopher of Color, and the best of all authorities on this subject.

Red Drapery.—Pink-red cannot be put in contact with the rosiest complexions without causing them to lose some of their freshness. If it is unavoidable, however, separate the pink from the skin in some manner; and the simplest way of doing this is, to edge the draperies with a bordering of lace or tulle, which produces the effect of gray.

Dark red is less objectionable for certain complexions than pink-red, because, being higher than this latter, it tends to impart whiteness to them on account of the contrast of tone.

Green Drapery.—A delicate green is favorable to all fair complexions which are deficient in rose tint, and which may have more imparted to them without objection. But it is not as favorable to complexions that are more red than rosy, nor to those which have a tint of orange mixed with brown, because the red they add to this tint will be of a brick-red hue. In the latter case a dark green will be less objectionable than a delicate green.

Yellow Drapery.—Yellow imparts violet to a fair skin, and for this reason it is less favorable than the delicate green. To those complexions which are more yellowish, it imparts white; but this combination is very dull and heavy, if used for a fair conplexion.

When the skin is tinted more with orange than yellow, we can make it roseate by neutralizing the yellow—which makes it thus appropriate for brunettes.

[Pale yellow or greenish-yellow suits no one, especially those with pale complexions. Its effect is to diffuse, by con-

trast, a purple hue over the complexion, and this is certainly no addition to beauty.]

Violet Draperies.—Violet, the complementary of yellow, produces contrary effects; thus it imparts some greenish-yellow to fair complexions. It augments the yellow tint of yellow-and-orange skins. The little blue there may be in a complexion it makes green. Violet is therefore one of the colors which harmonize least favorably with the skin; and especially if it is not sufficiently deep to whiten it by contrast of tone. Mauve, and its varieties, are also included in this category.

Blue Drapery.—Blue imparts orange, which is susceptible of allying itself favorably to white and the light flesh tints of fair complexions, which have already a more or less determined tint of this color. Blue, especially sky-blue, is consequently suitable to most blondes; but will not suit brunettes, since they have already too much of the orange-tint.

Orange Drapery.—Orange is too brilliant to be elegant. It renders fair complexions blue—whitens those which have an orange-tint—and gives a green hue to those of a yellow tint.

White Drapery.—Drapery of a lustreless white, such as cambric muslin, accords well with a fresh complexion, of which it relieves the rose-color; but it is unsuitable to complexions which have a disagreeable tint,—because the effect of white is to exalt a color by raising its tone—and hence whatever may be objectionable in the flesh-tint, the contrast with white will only render it more so.

Very light-textured fabrics, however, such as lace or open-worked drapery, produce an entirely different result. They appear more gray than white; the threads, which reflect light, and the interstices, which absorb it, producing the effect of a mixed surface of black and white. In this respect,

all white drapery which allows the light to pass through its interstices must be regarded as being gray rather than white, and can be used for the purposes of gray.

Black Drapery.—Black draperies, lowering the tone of the colors with which they are in juxtaposition, whiten the skin. But while this lowering does not take place to any very great extent, unless the black is in actual contact with the color, it has the effect of heightening the cheeks, if the white skin intervenes; the former appearing redder, and the latter whiter than they would if the black drapery did not exist.

No matter whether the complexion be dark or fair, the color should never be placed next the skin, but should be parted from it by the hair or by a ruche of tulle, which produce the neutralizing effect of gray.

Colors for Head-Dress.

If we notice the tints which are generally considered as harmonizing best with light or dark hair, we will discover that they are those which produce the greatest contrast. Thus, sky blue, which is known to accord well with blondes, is the color approaching nearest to the complementary of orange, which is (philosophically considered) the basis of the tint of their hair and complexions.

In the same manner, yellow, and red—more or less orange—are two colors which accord very favorably with black hair. These colors, yellow and orange red, contrasting by color and brilliancy with black; and their complementaries, violet and blue green, in mixing with the tint of the hair, are far from producing a bad result.

☞ The student will not forget, that his colors must be chosen as a harmonious *whole;* for a color may be favorably adapted to the hair, and yet produce a disagreeable effect with the skin, and *vice versa.*

Painting the Drapery.

The quality and sort of drapery being already indicated in the photograph, the student will find that his special attention is required while coloring, in order to *preserve* the *natural* folds and other general characteristics of the fabric. As the application of his local color will, to a certain extent, obliterate many of the lighter lines of the photograph, he will also perceive how very advantageous it is to possess himself of a previous knowledge of the manner in which various fabrics—cloth, silk, satin, velvet, linen, damask, &c.—*break up* into folds; together with their characteristic lights and shadows.

This knowledge is furthermore *absolutely necessary*, from the fact that in many photographs the lights are so intense, and the shadows so deep, that all the intermediate lines disappear, and the student is left to depend wholly on his own ability to supply the deficiency. Indeed, experience teaches that, occasionally, in restoring pictures from old 'types, the artist *must* supply the drapery *entirely*.

With this exigency likely to occur, the diligent student will feel it a duty to inform himself concerning the fundamental rules on this subject. Let him remember that drapery is intended to *cover*, but *not hide* the form; and that as the inequalities of the stream-bed are discoverable by the rippling water that runs over it, so the posture and shape of the members ought to be discernible by the folds of the garment that covers them. The drapery should *cover* the body as if *to show* it.

Endeavor to comprehend the *rationale* of drapery; how the folds originate from those points where it is held, enlarging as they recede, spreading where unconfined, or changing their course where they meet with resistance. On the whole, Drapery is one of the most important branches of our art, and accordingly demands attention and study—

contributing very materially to the life, to the character, and to the success of the picture.

The practical operation of drapery-painting is reducible to *two* General Methods, the choice being left to the student, who will decide *according to the folds*, whether they be *distinct* (1) or *obscure* (2) in the photograph on hand.

First.—Go over the fabric with a thin wash of the local color, principally to moisten the surface. Then define the folds, beginning with the larger ones which give shape to the masses. After these are completely absorbed, proceed with additional washes—three should suffice for any case—until a proper weight or body of color has been reached; all of which must be governed by the photograph itself, and keeping in view the tone desired for the drapery to be when finished. *Upon* this basis the deeper shadows are to be worked, before it is entirely dry, so that their edges will blend into the local color. The high lights should not be laid on until the previous work *is* entirely *dry*.

By laying the washes one over the other, as directed, (instead of applying the local with its requisite strength at once,) the effect of texture is gained, and an evenness of tint, which would not result otherwise. If the photograph be *very* strong in the shadows, and bright in the lights, there will be no necessity for defining the former at all until the local color has been decided, because (it may be presumed,) they will be sufficiently discernible through the local color.

The shadow-tint should, in all cases, not be too strong or thick, as it is intended only partially to *obscure* the local color, *not to hide it;* which it would do if it were made too powerful, besides imparting a hard, patchy appearance.

In shadowing, *never* work *across* the folds, but always carry the brush in the direction which they run; and from, not to, the outline. A camel's-hair brush is perhaps better adapted for laying in the draperies than a sable one, because

the color flows from it more freely, and the markings of the brush are not perceptible.

Second.—This is only a *reverse* manner of working, necessitated by the want of definition in the photograph—bad focussing, weak negatives, or over-toning.

In this method, work up the folds—guided by your *duplicate* photograph, which this process renders necessary to have at hand—until they are sufficiently distinct to permit a good wash of the local color. In order to soften the edges of the shadows in defining the folds, it is preferable to lay them out broadly at first, with a rather thin tint, adding the stronger touches inside; and others, if necessary, still inside the last. There are instances, however, where the edges of the fabric overlap, as in gentlemen's coat-collars, &c., when harder lines should be used. The student should also guard against too great minuteness in detailing *every* fold! He must omit repetitions and continuations, and endeavor to maintain breadth and characteristic variety of line.

The shadows being fully defined add another wash or so, of considerable strength, and the work *should* be complete.

In making the wash over a shadow already defined, it must be done *at once*, with one sweep, not allowing the brush to work back—or twice over the same spot—else the shadows may wash up, and the smoothness of the work be destroyed. Remember that each wash must be *completely absorbed*, and *partially dry*, before another follows, and entirely dry before the high lights are added.

As a general rule in regard to draperies, it may be remarked that the lights and the middle tints are always cool, and the shadow colors should be warm.

Painting of White Drapery.

That portion of every photographic picture designated (and intended to represent that which was in the original

subject) "white," will upon examination, prove to be anything but *white*. This is readily discovered by laying a piece of clean white paper beside it: the discoloration is attributable to the action of the various chemical processes which the photograph must undergo, and somewhat to the printing. Hence it becomes as necessary to paint *white* (although the picture is supposed to *be* upon white paper) as it is any of the acknowledged colors.

In treating white drapery: for the middle shadow tints use a gray composed of Cobalt and a little of Indian Red; or Cobalt and Burnt Sienna; and the shadows with Cobalt and Vandyke Brown, or Neutral Tint and Vandyke Brown, if necessary for the deeper effects. Another useful gray for delicate shadows is made of Cobalt, Raw Sienna, and Rose Madder.

For all ordinary purposes use Chinese White on the high lights; although Flake White is very often preferable (especially for the smaller pictures), as it is more delicate, and will not give the lights such a solid appearance. In painting laces, however, and all articles which want the effect of *body*, and need to be manipulated with touches, Flake should give place to Chinese White, the former being deficient in body.

When white drapery occurs in actual contact with any other—especially the dark colors, as a linen bosom under a black vest—the strong contrast causes the edges of each to appear very hard. Consequently it becomes necessary to interpose a connecting tint that will modify the harsh contrast and give softness to both. This can be done by breaking down the edges of the white with gray—one of the above-mentioned—according to circumstances. White drapery is usually modified by the colors of surrounding objects and background, and the shades and middle tones also partake of the same.

The Use of the Simple Colors.

Yellow Draperies.

The principal of these are as follows:

Lemon Yellow.—Which may be shadowed with Roman Ochre and Vandyke Brown; it is semi-opaque, and does not answer for delicate washes.

Indian Yellow.—Which is very warm; and the shadows of which should be brown, slightly purple—Vandyke Brown and a little Purple Madder.

Yellow Ochre.—Which is a pale, sober tint; the shadows of which can be made with Raw Umber and Roman Sepia.

Cadmium.—Which is a rich orange tint; can be shaded with Cadmium itself, Burnt Sienna, or Sepia, for depth.

Roman Ochre.—Which is a brownish-yellow, semi-opaque; and can be shaded with Burnt Sienna and Vandyke Brown, using them separately in the order named.

For the high lights of all yellows, add Chinese White to the local color.

Red Draperies.

Under this general head may be classed three principal divisions, as follows:

Pink.—Is simply a reduction, with water or Chinese White, of Lake or Carmine; although Rose or Pink Madder alone answer *much better* for this color. It may be delicately shadowed with its own stronger tint, or a lilac by adding Cobalt to the local color, and the deeper shadows with Scarlet Lake. The lights can be heightened with a thin over-wash of Flake White. The delicateness and permanency of the Madders render them by far the most desirable for Pink.

Crimson.—Lake will be found sufficient for all ordinary purposes and susceptible of beautiful effects. Carmine is more brilliant and powerful, though not so desirable. The addition of Sepia will shadow the Lake. If Carmine is used, the addition of Lake will do for the lighter shadows, and Sepia and Lake for the heavier; sometimes Vandyke Brown and a little Black. For high lights in either case, add White to the local color.

Scarlet.—The different hues can be produced with the Vermilions. Scarlet Vermilion and Carmine make an excellent, but opaque, tint; whilst another, more transparent—for silks, &c.—can be formed with Indian Yellow and Carmine. Vermilion, if used alone, may be increased in brightness by laying under it a strong tint of Cadmium or Indian Yellow. The shadows of scarlet may be of Lake and Sepia; and for the high lights, add Indian Yellow or Cadmium and Chinese White to the local color.

The other reds, Light, Indian, and Venetian, are not likely to be desired in photographic draperies; at least not for general application, although they may serve well as bases, and as first-washes for other reds.

The Red parts having been translated to dark in the photograph—and which are to be painted red again—are assisted by a wash preparatory to the local color. Vermilion, especially Scarlet Vermilion, and sometimes Orange Chrome, may be used to "kill" the blackness. When the picture is to contain a large quantity of red, it is always best to put on the red local before finishing the carnation, in order to judge their tone.

Blue Draperies.

Excepting as an accessory, blue is regarded to be a cold, disagreeable color, and extremely difficult to harmonize with others; at least within the limits of a photographic painting. Therefore, if blue must be used, the student should endeavor

to "kill" it as far as possible with warm, brownish shadows. Another remedy is, to make the local color *negative* or only of a blue-*ish* color; and use pure blue only in the highest lights. Thus, in painting military uniforms, the tone may be rendered warm by *killing* the mass of raw blue with a slight addition of Lake. Blue is often a favorite color with ladies, and hence, if it is compulsory to paint a dress blue, the colors of all the accessories should be determined with a view to destroy its obtrusive predominance.

The respective merits of the blues have been elsewhere mentioned. In draperies of this color the lights and half-lights are cold and the shadows must be warmed with Lake, or Lake and Sepia; and where the blue approaches purple, with Orange. Cobalt may be used for the lighter tints of local color; French Blue for the more intense, and to this add Indigo for the deepest.

When black—black lace, for instance—is contrasted with a deep blue, the former should be made very warm; and instead of actual black, warm browns may be used—as these by contrast will appear black.

Use of the Compound Colors for Draperies.

Green.—Is a very powerful color, and a disagreeable one if used in large masses. The simple compound of a yellow and blue will suffice in most cases, but if variety is desired, the different shades of green may be formed thus: Indian Yellow with Indigo, or Prussian Blue, will form good greens (the Prussian Blue making the brighter); Gamboge and Cobalt form a pea or cold, light green; Gamboge and Prussian Blue form a sea-green; Roman Ochre, Indigo, and Sepia, form a drab or dull green; Indigo and Burnt Sienna a russet green, which may be warmed with Gamboge or Indian Yellow; Raw Sienna or Yellow Ochre and Indigo, a sober green.

The pigment known as Prussian Green furnishes to hand a splendid green for drapery; and is a beautiful and suitable tint for curtains, cushions, and dark silk dresses. Its proper high light is the prepared Emerald Green, which can be still further heightened with Chinese White.

Purple.—The various hues of purple—lavender, violet, lilac, &c.—are formed with the blues and crimsons. Enough has been said of these, as simple colors, to direct the student's choice in compounding them. The lighter and more delicate can be produced with the Madders and Cobalt; the darker and stronger with Carmine or Lake and Prussian Blue or Indigo. French Blue and Crimson Lake form a very bright and clear shade, which is of great use. All purples may be subdued with Sepia. Make the shadows with local color and Madder Brown; and, if they are to be very heavy, the dark shade may be obtained with Madder Brown and Purple Lake. High lights, local color and Chinese White.

Orange.—The ordinary compound is formed in various degrees by mixing the yellows with Vermilion or the Crimsons; and also in the already prepared Orange Chrome. Cadmium, with Carmine and Lake, produces gorgeous tones. Shadows are Carmine or Lake, added to the local color, and qualified with warm Sepia; the lights require a preponderance of White.

Maroon.—A very fine hue of this color exists in Madder Brown alone. Others are formed of Sepia and Lake, with or without the addition of a little Cobalt; and also with Lake or Madder Brown and Burnt Sienna. Modify the shadows with Vandyke Brown and Sepia.

The Browns.—Under the head of Pigments, their Qualities and Adaptations, much has been said concerning the various browns. It is not, however, a generally desirable

color for dress in pictures, and seldom used, except to give variety, or where its use may be necessary on account of the number of figures in the picture. The Browns as already prepared, either alone or by intermixture, will suffice, and should be selected according to the photographic base on which they are to be laid. "Snuff-colored" brown, used for very old-fashioned coats, may be found in Burnt Umber or Venetian Red and Lampblack. Work the shadows with the deeper kinds, lowered, if necessary, with Neutral Tint or Lampblack. For high lights add White.

Black.—This may almost be considered the universal color for male apparel, and is in constant demand by the photograph painter. The very best transparent black for cloth, silk, and other black fabrics (except velvet) is the compound of Indigo, Lake, and Sepia, which, if properly mixed, and the right tone obtained, will produce as fine a color as can be desired. Instead of Sepia, the use of Gamboge has been advised, but the working qualities of the former are so *very* superior to those of the latter, that the first-named is most generally used.

The preparation of this valuable compound is a matter of no little consequence, and of some difficulty in obtaining just the depth and tone wanted. To succeed well, the student will find that it must be done *systematically*, and that if the three are mixed together hodge-podge, he will be compelled to add a little of one, and then another, to obtain the desired tone—and *dirtiness* will be the result. Instead of that, choose one of the following methods, as suits best, and proceed understandingly: (1.) With Indigo and Lake form a deep purple, then add Sepia until a satisfactory black is produced. (2.) With Indigo and Sepia make a deep green; neutralize this by adding Lake. (3.) With Lake and Sepia make a strong maroon; neutralize this by adding Indigo. Perhaps the chief difficulty will be in knowing just *when* to

stop adding the color which neutralizes the others into blackness; and to this end the mixture should be constantly stirred with a brush, so that its depth and tone are understood while the third is being added.

The shadows are to be worked with local color used strongly, and deepened with Indigo, if necessary. The lights must be put on with pure gray—Lampblack and White—used sparingly.

Lampblack should not be used much in draperies, for the simple reason that it is opaque and will necessarily obliterate the shadows of the photograph, whereby many of the lines and folds of the drapery would be lost. It may be used, however, for the very deepest shadows in connection with the compound black; and also for the local color of black velvets—in which case all the lights are to be worked on afterwards with normal gray.

Gold, Jewelry, and Precious Stones.

The gold ornaments, almost inseparable from photographs of women, and the buttons and tinsel upon military uniforms, should not be painted too bright, as gold is of a rather quiet and unobtrusive color. Roman Ochre furnishes the *best* local color, except for Etruscan gold, which requires Indian Yellow as its local; and the shadows may be put in with Burnt Umber, and Burnt Sienna for the stronger touches. The high lights demand Indian Yellow and Chinese White, on account of their unmistakable permanency and brilliant effect,—and this may be further increased by very small after-touches of *pure* White.

To delineate the ornamental work of gold jewelry, there is no more effective manipulation than *dots*, the high lights on which give the appearance of raised points, carved surfaces, etc.; but they should be naturally located on the jewelry, where it might be *supposed* the surface *would* be raised,

or points occur. This is specially true when the ornament is small, or indistinct; these high-light dots are sufficient to impress the imagination and create a form, though none really exists.

Precious Stones.—For the various colors of the precious stones, the student is advised to examine the originals and copy his local color from the stone itself, as instructions herewith may be for the most part insufficient. The photograph will be found to have given a dark basis for most stones, and the use of body-color becomes necessary. The Red Corals will also require preparatory bases of Vermilion. Garnets will photograph like jet, and yet often be entirely white.

The beauty of the stone nearly always centring in its brilliant high light, the student will see that his important task is comprised in designating the exact tint of these high lights, which are *not always* found by adding Chinese White to the local color. In general, however, this is practicable; and the light should be increased by an additional touch of almost pure white. Gum Arabic should be applied freely, and no efforts spared to produce the most intense effect.

Accessories—General Remarks.

Although the subject of accessories might, with propriety, be included under the general head of Background Painting, it is a subject of sufficient importance to merit a special chapter.

By the term *accessories* is meant the various auxiliaries introduced in the picture to assist the position, explain the idea, relieve the figure, etc.—such as curtains, tables, chairs, footstools, libraries, flower-vases, and whatever may be suggested by the subject in hand.

To elaborate these accessories overmuch is a very common error with beginners, who lose sight of the fact that it

detracts from the importance of the figure. On the contrary, by treating accessories with breadth and freedom, and massing them judiciously, we obtain a result at once advantageous to the figure, and easily practicable as to finish. When such an effect is obtained, there is no difficulty in fixing upon the necessary degree of elaboration, as it is then easily perceived how extreme detail would be injurious. (The foregoing remarks apply as well to Landscape: there should be no precise definition of leaves in the nearest foliage; no minute laying out of branches; but rather truthfulness of *form* and completeness in *massing* the foliage.)

In simple bust pictures, the introduction of any accessory is, to say the least, injudicious. Nothing will be more suitable for such pictures than a plain background; but in larger pictures some kind of accessory frequently becomes indispensable. For instance, where the arms are introduced, some object, as a chair or table, or both, may be necessary to account for the position; but it should be constantly remembered that unless the accessory *does* assist the composition, or relate to the age, position, or character of the person represented, it *must be omitted.*

It is not an uncommon thing to see pictures so *overloaded*, with gaudy bed-furniture curtains; walls entirely covered with lines and panels; vases filled with artificial flowers; columns and plaster of Paris statues; windows, arches, old fashioned furniture, etc.; while the colors of these may be so glaring, and the details of form so precise, that it is well-nigh impossible to determine the actual intention of the photographer or the colorist—whether it be to display the figure or the accessories!—and of course rendering *the portrait* wholly a matter of secondary importance.

The accessory most usual in common practice, besides the chair or table which nearly all figure photographs contain, is the introduction of a curtain; and it must be conceded that this can be made of very great use in assisting the gen-

eral effect. In undertaking to put in a curtain, the first important thing is to be able to *draw* an outline, and obtain folds which will really imitate nature, so as to produce a graceful flow, and avoid stiffness. After that, the addition of cord and tassels, if desired, will claim a like degree of attention.

As already mentioned in the chapter on painting drapery, the general line of the folds and masses should indicate the nature of the fabric; whether it be intended for velvet, brocade, cloth, etc. Brocade will be more easily distinguished and represented by the lines and figures that should be worked upon it—another point to study! White lace curtains may sometimes be introduced with excellent effect, but must never be painted as though it was essential to define their every interstice. It will quite suffice to give a certain amount of detail along the edges and on the higher lights, but it should be left to the imagination to supply the rest.

Painting of Curtains.

It being quite probable that the student will be employed more on curtains than on any other of the various accessories, a few practical methods for producing them are herewith given:

Red Curtain.—Mark out the folds and shadows with Sepia; then lay on a wash of Carmine or Crimson Lake; and over that, when dry, others of the same, until a proper strength is reached. Deepen the shadows with Sepia and Lake, or Madder Brown. Whenever it becomes necessary to *break down* a curtain that appears too glaring, lower the red tint by hatching with broad touches, of Madder Brown —or still more, with Sepia alone, or with Lake. If that does not throw it back sufficiently, hatch it with Blue, which will make it retire considerably further. For high lights, mix Chinese White with the local color; or touch them on with

Colored Crayon (in cedar-wood), or hard pastel of the proper tint.

Amber-colored Curtain.—Wash with Indian Yellow modified with Burnt Sienna; shadow with Burnt Sienna, and afterwards with Vandyke Brown lowered with Sepia. High lights, Indian Yellow and Chinese White, or Yellow Crayon. If it is desired to give it a retiring effect, paint a black pattern upon the curtain, or cross it with fine diagonal lines.

Green Curtain.—The already prepared Prussian Green is a very good local color for a brilliant, strong and cool tone. Shadow in the same manner as for green drapery, using Emerald Green for the high lights.

For other hues appropriate to curtains, see "Compound Colors for Draperies;" and bear in mind that the Secondary hues are as decided as strict judgment can permit for use on curtains. The purer and unalloyed tones of yellow, blue and scarlet-red, are too attractive for the subsidiary position of a curtain, and would doubtless overwhelm any figure. The more grateful hues of purple, green, and brown; or the Tertiary Compounds, and even the neutrals, will be found much more proper and useful.

Furniture.

The wood-work of furniture may be represented as Mahogany, Rosewood, Walnut, or Oak, according to the local color used. Venetian Red or Light Red will produce the Mahogany color; Crimson Lake and a little Sepia will give the various tints of Rosewood; Burnt Umber, lowered with Sepia, will furnish the Walnut color; and for the Oak use Yellow or Roman Ochre, as the case requires. Warm Sepia and Lake also form a good furniture tint. Madder Brown may sometimes be used when the basis is dark.

The high lights on furniture are grayish-blue, and should be touched on with distinctness. A few delicate after-

touches of white increases the brilliancy of the lights, which is very essential in correctly representing the highly polished wood. The free use of Gum Arabic is as necessary to imitate furniture in a picture as varnish is to complete the thing itself.

The color of the velvet, damask, or cloth furniture-cushion, should be discreetly chosen; as, in many pictures, it is the only place for the introduction of a positive hue with which to harmonize the flesh or drapery.

Carpets and Table Covers.

These should, for the most part, be kept in great subjection to the figure. If it is decided to work up, in detail, the various parts of the pattern-figure, the colors should not be applied with too great nicety and precision; and no attempt should be made to work out the exact pattern—else the result will look like a piece of mosaic work, and the effect be hard and disagreeable.

While the student is recommended, as a general rule, to treat the figures of carpets *indifferently* when they occur in shadow, along the edges of his picture, however, he must also be able to *concentrate* his light in a particular spot by working out with more distinctness, and with brilliant colors, the pattern as defined by the photograph. With this idea in view, let him work the carpet in full light *only* at the feet of the figure, the borders being kept in shadow—especially that which lies along the bottom or *front* of the picture. If this is in shadow, and the light kept up at the feet of the figure, it necessarily follows that the figure will be thrown back, and so placed as to attract the eye instantly, involuntarily, and pleasurably.

An *exception* to the foregoing occurs when it is necessary to make a tessellated floor, which, so far as light and shadow are concerned, can be regulated in the manner spoken of; but

the geometrical drawing, according to the rules of perspective, must be rigidly maintained throughout. The tessellated floor is seldom introduced into photographic paintings, however, and scarcely demands particularization here. It is mainly suitable for halls, terraces, porticos, etc.

The handling of the brush, in working on carpets, should, as much as possible, be performed with short *horizontal* lines; if the lines and touches are perpendicular, the carpet (or floor) will seem to run up toward the back part of the picture.

The same general ideas mentioned, for curtains and carpets, are equally applicable to table-covers. The student will guard against over-finish and flatness. The part of the cover next the sitter alone should receive attention, suffering the other side to remain in shadow. If the cloth be figured, avoid such color and detail as will *lose* the hand that may rest upon it. The cloth should hang in easy folds at the side, and the tone of color be subdued as it approaches the floor. Being of minor importance, it should comprise very little variety of color, with the high lights few.

Repetition of Light and Color.

An open window or door, affording a glimpse of landscape outside, may sometimes be introduced to great advantage, for the purpose of *extending the light*, which would otherwise be confined to the figure, as well also for the *repetition of color*. For instance, if the interior color be dark-toned, the introduction of a few warm tints into the sky (as seen through the window or door), serves to repeat the color of the flesh; while other tints of ground and foliage may repeat the color of the draperies—and thus, by contrast or complementary effect, the value of the whole is enhanced.

Concerning this repetition of color, it may be observed, that it is *not* intended the color is to be repeated with *ex-*

actly the same tint in any case whatever, but by one of its kind in general. The object of this being to raise or to lower the *tone* of the colors upon the figure, reds, yellows, and blues are to be regarded as general colors, and not as individual tints of any one color.

Backgrounds—General Remarks.

A consideration of most vital importance in the management of a picture, is the background; by which term may be understood everything seen beyond the plane on which the principal figure or figures are arranged.

It should, in general, be of a negative character, and retiring, in order to give prominence and force to the subject painted. It affords the student an opportunity of showing his originality in the introduction of striking and ingenious devices, which shall add a grace and interest to the figure, —giving vigor and point to some parts, softness and repose to others, and union, harmony, and effect to the whole. Whatever is introduced, therefore, should be *in perfect agreement* with the character of the subject in hand.

The chief technical resources of background painting are to be found in *Landscape*, *Architecture*, and *Drapery*.

Originally, it will be found best that the ground should be of a tone midway between the highest lights and the deepest shadows of the picture, in order to give due relief to all parts, and produce the best results in coloring. But this is not always the case, and, except when the photograph has a *white* ground, the student is unfortunate (as photograph painters usually are) in not being able to *select* his tint of background, but must yield, whatever desire *he* may have, to the necessities of the case.

In painting backgrounds, two essential points are to be observed—*tone* and *color*. The color is to be chosen in the same manner as those of draperies, with respect to the head

and figure. The tone must be always different from the mass it supports, and of which it is the ground, so that the objects coming upon it may not seem transparent, but solid and raised—"relieved." The color of the hair of the head usually determines the tone of the ground in portraits or vignette pictures.

When the ground is neither a curtain or a landscape, but is plain and like a wall, it should consist of broken tints, and not of one uniform color, and it should be lighter in some parts than others, so that the figure may not appear inlaid.

After the head and drapery are painted, it is the background which completes the picture, and its use is not merely to throw out the principal object, but (as before mentioned) to control and harmonize the whole.

The student must ever remember this as a standing rule: to relieve his figure and accessories by placing light against dark and dark against light. Hence, if the head or figure to be painted has one side of the face in shadow, his background must be kept lighter against that side, and made darker against the other side which has the higher light upon it.

It is also a good plan to keep the warmest colors near the centre of the picture, and the blues and colder colors outside.

There are two principal methods of relieving a figure: in one the light is on the figure; in the other, the figure appears dark on a light ground. For portraits, the former is best adapted; and the tint of the background (the tone of which is always to be kept low, in order to throw out the head), may be varied through all possible gradations, from the shadow thrown upon a light-tinted wall to the depth and obscurity which surrounds a figure placed just within an open door. Light backgrounds involve less labor, but they have not the force of dark ones, for that light will always appear

brightest which is surrounded with the most intense dark. Certain parts of the figure may sometimes almost be lost in the ground, whilst other parts should come sharply out of it.

Backgrounds—Practical Directions.

With the foregoing remarks upon the nature and characteristics of backgrounds in general, more special directions for painting the same may now be given.

In general practice, it is advisable to use negative grays, blues, and purples, especially for pictures of fair persons and children. Dark complexions should have dark backgrounds, inclining to red or warm brown. Olive greens give additional value, too, by throwing up the reds of the face. Never use a cold, blue-green, although the use of this color may otherwise vary from a yellow-green to a drab.

The gray, blue, and purple tints above mentioned, can be used to most advantage in vignette-head pictures, to be painted on white grounds. In these instances the background should be made to represent clouds—atmosphere—(giving the head an appearance as if seen against the sky), and can be manipulated as follows:

Having selected and prepared your cloud-color, proceed with a light tint of the same over all the space intended, remembering to lay out the edges with convolutions and broken forms, as seen in nature; then, as quickly as possible, go around the edges of this with a *moist* brush, absorbing part of the color, and, thereby, blending the cloud-mass with the clean paper. In doing this, break up the upper edges into delicate traceries, but occasionally leave some of the lower parts heavy in color, to represent the shaded side of the cloud. In laying the wash, occasional specks and lines should be reserved *white*, like openings, which are very effective in the end.

When this is absorbed, lay on another and darker tint,

keeping it some distance *within* the outline of the first wash, but not always at a regular distance. Neither should there be a uniformity of convolution or shape, as nothing of the kind exists in the natural clouds which are being imitated. Add a third and still darker wash, at the proper time, inside of the edge of the second. Three washes are amply sufficient, although the number and strength of color must *always* be regulated by the work in hand.

Perhaps one, or, at most, two washes will be found quite sufficient against the dark side of the face if three be used to relieve the light side; they should *never* be *alike.*

If the clouding is to be composed of *more* than one tint, all must be prepared and *everything ready* before commencing the wash; and, if the work is to be finished by *hatching*, the selection of these wash-tints must be done not only with reference to the hatching-color, but also with reference to the subject, so as to avoid muddiness in the end.

For a shadow-cloud (or rather a shadow *upon* the cloud) to relieve the dark side of the face—just as it would be proper to execute a shadow upon a wall-background—it may be necessary to increase the strength of color, or use an additional darker one.

[Although the foregoing method of producing backgrounds by *washing* is *expeditious*, and may suffice for pictures that are not intended to be wrought finely—and may also do *for the beginner* in photograph painting—it is incomplete, and lacks the artistic finish which is essential to an *excellent* picture, especially a vignette-head on a white ground.

If, however, the work is to be elaborate and complete, the *best* aerial effect will be obtained by *hatching over* the entire cloud surface. This will require a very great amount of time, patience, and labor; but, if the proper handling has been used, the superior result will amply repay.]

Cloudings for children's heads should be composed of

whatever tints harmonize best with the face; and it will be found that a subdued green can be introduced freely with good effect. For women, the tints should be more sedate, but still fresh and variegated; and for men, the cooler and stronger grays, drabs, and greenish-browns will be appropriate.

The shaded side of the face is always greatly relieved, and a good general effect produced, by throwing a moderate shadow upon the clouding at a little *distance* from the head, as has been previously mentioned. It should be worked along the lower edge of the clouding, and, as it were, seem to *rise*, losing itself in the general tone as it rises. If the shaded side of the face be *very* dark, it can be made to lose one-half its blackness by putting in this effect of shadow-cloud sufficiently strong; but care must be used, so that, while a due strength of color is used, the idea of *atmosphere* be not destroyed; or, that which is intended to be aerial may prove "of the earth, earthy."

Indeed, all the hatching and stippling, to obtain a cloud-effect, must be done with comparatively faint but decided lines and touches; and the former should *never* intersect each other at right angles, or run too much in parallel lines. Crossed hatching lines, drawn somewhat less than forty-five degrees from the right and left of a perpendicular, produce the aerial effect, if not too distinctly drawn. They should be light or heavy, according to the depth of the wash upon which they are worked. The edges of the clouds must always be lighter and more delicately handled than the centre parts.

Opaque Backgrounds.

Although it is the practice of some artists to surmount the difficulties arising from very dark backgrounds in the photograph, by painting them entirely in "body color" (mixing all the colors with Chinese White), the practice is

considered inartistic, and open to many objections. It is *not* meant here that body color is never to be introduced, but *the exclusive* and *entire use* of it *is not advised.*

Water color painting is, *par excellence*, a mode of using *transparent* pigments on a white ground; consequently any attempt to engraft the beauties or capabilities of other styles totally different in this important quality, cannot end otherwise than in a loss of the chief beauty of water colors. This is the *theory* of its application to photographic painting.

The handling of the body-color method must necessarily be akin to the practice of oil rather than water; and though it gives more power than the general style, it causes a total sacrifice of all the beauty of transparent color. It destroys the general softness of the picture, and is certain to make the head or figure look "inlaid," or as if cut out and pasted against the ground.

If the background is to be made an important feature of the picture, it is infinitely better to have the photograph taken with a *white ground* at first; or else have the figure cut out and printed *without* the original background, as all photographers understand. Then the artist has a basis upon which he *can* exercise his choice, and a field is opened to him in which to display his ability in the *true* style of water color. But when the ground is to be plain and of one shade, very beautiful effects are afforded with soft pastel, to which attention is now directed.

Backgrounds in Pastel.

The objections generally urged to opaque grounds must be yielded in this species of work; for, while there is no better way of covering over a scratched or speckled surface in the photograph, there is also no other means of producing a new one which can rival it in evenness of tint or shade, softness and atmosphere.

Perhaps the most valuable characteristic of pastel is its

great use to the artist when he has in hand a copy of some old daguerreotype that has a horrid background of streaks, dust-marks, scratches, stains, etc. Whether the copy is to be worked in India-Ink or color, he will be surprised to find how readily and expeditiously he can get rid of an abominable task, in which, but for pastel, he would be compelled to exhaust his patience by *stippling* to smoothness.

Gray Pastel—For India-Ink Work.—First touch out all the spots, lines, etc., that appear white; then, by washes of Lampblack, bring the photographic ground to about the tone, or, if anything, darker than the shade of the pastel about to be used. For this particular purpose Lampblack is superior to any other pigment, on account of its "body," which creates a "tooth" on the surface, to catch and hold the pastel when subsequently applied.

In preparing the ground for the pastel, it should be done as evenly as possible, and as the powder is not to be rubbed on too thickly, it is plain that the more equal in tint the basis is manipulated, the smoother in surface and tone will be the finished ground.

No attempt must be made to apply the pastel until the washes have become *entirely dry*, else the powder will "cake" instantly, and the wash will "rub up." Neither should the fingers or hand be allowed to touch the surface, when dry, as they are likely to impart just enough grease to keep the pastel from adhering; indeed, the sure preventive is to *wash* the finger or fingers intended to be used in rubbing the powder.

Now crush the pastel to a fine powder with the spatula, or by rubbing it on a piece of moderately smooth board, or card-board, and mix the shades according to what the work demands. Place the drawing-board in a horizontal position, or nearly so, and with the spatula gently sprinkle a quantity of the powder upon the surface. Then apply it to the part previously washed, by rubbing it with the finger over the

broad spaces, and carry it into such corners as the finger cannot reach, with the aid of a Stump. Spread what is there as far as it will go before adding more, and if the ground-wash is even, it can be rubbed very thinly.

Always put on the *lighter* shades *first*, and rub the darker ones into them, finishing with the deepest. The finger should be worked with a circular motion, bearing very lightly on the paper, and leaving no marks or any trace whatever of *how* the powder was applied. Do not press the finger too heavily on the powder when the spreading is commenced, or it will likely not spread well from that particular spot, and smoothness will be impaired.

Remember the general rule, to apply the shades of the pastel light against the dark side of the face or figure, and *vice versa;* and, if the shadow be thrown in correctly, the effect will be wonderfully soft and atmospheric.

In applying the pastel powder, if some of it is accidentally rubbed beyond the limits of the space to be covered, or upon the figure, it can be removed with a dry brush, or soft India Rubber, used very lightly.

About three tints of normal gray (as it is found in boxes) will be sufficient to compose a good background for India-Ink work; but, instead of obtaining the very deepest tones by use of the soft pastel, it may be preferable to grind down some *hard*, black (Contè) crayon, which will produce a less sooty effect.

To avoid the inlaid effect, and give nature's softness to the outline of the figure, go all around the edges with a *moistened* (not wet) brush; this will just *sadden* the tone of the pastel where it comes hard against the figure, and give a more pleasing result.

Should it become necessary to add other washes to the drapery, curtain, or anything else, *after* the pastel has been laid, be *very* careful that the motion of the brush shall keep the flow of the wash *from the edges* of the part to which it

is being applied; otherwise, if the color strikes the pastel, it will spread instantly, and the work be damaged.

If facility is once attained in the application of pastel, the student will be not only surprised and pleased with the beautiful finish which this smooth background gives to his picture, but also with the very simple and easy process by which a result so excellent was obtained.

For Colored Work.—The foregoing directions apply also to the use of *Colored* Pastel in manipulating grounds for *painted* pictures; except that, if the finished ground is to be of a *light* tint, it will be advisable to give the paper its required "tooth," by adding a little body color (Chinese White) to a suitably colored wash. If for browns or stone color, the Lampblack will answer as well.

☞ Pictures with pastel backgrounds should *always* be set off with a *white-edged* mat, and framed at once, to keep them from being touched or rubbed, and the dust; or be well covered with tissue or soft Manilla paper.

Landscape Backgrounds.

Landscape painting is an art in itself. It is so distinct and separate, as a department of the water-color art, that no attempt will be made to treat of it at length here, and the student is advised to consult works written especially on this branch, or seek instruction from competent teachers. This book will, doubtless, be studied by many who have neither of those advantages by which to obtain this particular knowledge; and it may not be amiss, therefore, to treat a few items under this head, however brief they must necessarily be.

In order to obtain the forms with which this description of background must be composed—if it is desired to originate one of his own, and not to copy the design of another

—there is but one rule for the student's guidance: "Study Nature!" and, as she is read, so let her be depicted.

The general design being settled, and his drawing made, he must endeavor to obtain a handling of the brush which will indicate *foliage*, and varying according to the peculiar characteristics of the tree or bush he would represent. It may be said, that no two persons ever painted a tree with precisely the same feeling. The difference observable in the representation of foliage, as painted by various artists, is very considerable.

Some artists employ the color as wet as possible, and merely *blot in* the *forms* of the trees, mingling light and shadow together, and trusting to the lights intended to be *taken out*, by rubbing with a moist handkerchief, when the wash is dry.

Others use their color in a state almost dry, and the hairs of the brush, spread abroad like a fan, are made use of rather to scumble the forms in, than to define them properly. The distinguished English water-colorist, Rowbotham, advises that a medium between these extremes is the best to be pursued.

In a former chapter, on the properties and adaptations of pigments, many are spoken of as being the constituents of various greens, suitable for landscape, to which the student can now refer, and, by practising somewhat, he will discover their adaptations to the different parts of the background.

He must not, however, lose sight of the fact that his trees, etc., are only *auxiliary* to the idea centred in the figure, and that his landscape effects should be of secondary importance. If, by study and practice, he happily succeeds in obtaining the correct *position* and *form* of natural objects —evincing in the handling thereof that easy, broad, and "sketchy" manner so peculiar to the water-color art—it will be found that comparatively little work is required to furnish that which will *suggest to the imagination* a much more

pleasing result than, with extraordinary labor, could have been produced to satisfy the eye.

These remarks are particularly applicable, where it is purposed to execute the landscape ground in one tint, as, for instance, an India-Ink picture. Let the figure be photographed against a screen that will produce an ordinary tone of gray; then, with various shades of Lampblack washes, throw in the forms of trees, shrubbery, rocks, water, vines, clouds, etc. (according to design); strengthen these with shadow-washes blotted in, deeper and various, according to circumstances. With a smaller brush and thicker color, trace the shadows on trunks, branches, stalks, stones, and add the more delicate, as well as decided, lines in the foreground; remembering that the merest *spots* of color and indifference of line, *if aptly given*, will appear to the mind's eye as the graceful *abandon* of nature. The lights should be done with pure gray, and certain salient points with touches of Chinese White. If properly done, this method will be found quite useful and popular; and, if the student has previously acquired the necessary manipulation and the ability to reproduce nature's forms, he will find it more of pleasure than labor.

The chromo-lithography of the present day serves an inestimable purpose to the student who aims to possess himself with the *true* ideas of landscape in water-color, affording constant opportunities for studying the color and effects of the great English masters; and to a minute examination and imitation of these works—as well as the writings of Barnard, Penley, Rowbotham, and others—the more ambitious are referred.

Beyond all question, the ability to complete a *good* landscape background will demand of the beginner, as it does of the artist, *study*, attention to nature's forms, and care in the arrangement of all the parts. Above all, he should endeavor to attain a degree of "feeling" for the subject,

and imitate nature; not with a mincing particularity, but with a dignity, ease, and breadth, that will bring the imagination and the eye into complete harmony.

General Method of Painting.

Having already given the manner of painting the various details, it may be considered advisable, if not essential, to recommend *to beginners* a general method to be pursued in treating the whole. Not that there *is* (as in oil painting) a certain order of proceeding, but, first, because this work will doubtless be used by persons having no opportunity to witness the manipulations of professional colorists; and, second, because it affords a place to record certain incidental directions which cannot be properly classed under any other particular heading. It is *not* intended, by any means, to furnish an unalterable programme, but merely a light upon the student's pathway, enabling him, in a little while, to travel alone.

☞ It may not be inappropriate, just here, to call the student's attention to a matter which, if not of necessity, is certainly one of *advantage*, viz., *the order* in which his colors are rubbed on the palette; for a judicious and exact arrangement, in respect to the various hues and tints, affords considerable *assistance* in after-practice. In time, the student will be best able to judge for himself, but, at present, he is *recommended* to place his Cobalt in proximity with Indian Red, Vandyke Brown, Light Red, Pink Madder, and Madder Brown; Neutral Tint adjoining Vandyke Brown and Light Red; Indian Yellow between Venetian Red and Prussian Blue; Crimson Lake between French Blue and a little Sepia; Burnt Sienna between Indigo and Madder Brown; Yellow and Roman Ochre side by side; and the browns (the Sepias, Umbers, Bistre, etc.), by themselves—those least used on the under side of palette. India-Ink and Lamp-black on a separate palette; also another piece of porcelain for mixtures in body-color. These are arranged in conformity with the mixtures given generally in this work. The Vermilions, Whites, Emerald Green, and Orange Chrome should be rubbed fresh.

1. With a clean brush and pure water, go over, thoroughly, all the flesh parts of the picture.

2. Whilst that is becoming absorbed, and partially dry, compound the flesh-wash according to the tint of nature—keeping in view the tone of the photograph (whether light or dark, brown or purple)—and apply it expeditiously with a good large brush. Commence with the parting of the hair, and, as the wash flows down, carry it into all the corners and upon the ears; but carefully avoid washing it inside the line of the eyes. Keep an abundance of the wash-color afloat and constantly moving, so as to avoid streaks—the result of too rapid absorption or drying. The rapidity of the flow can be regulated by the inclination of the board or easel. If one application of the wash produces a too feeble tone, do not apply the second until the first is thoroughly absorbed; and whatever deficiencies in tint become apparent after the first wash, should be corrected in applying the second. As the student will find the subsequent painting has the effect of lessening the strength of the flesh-wash, it will be found of advantage, in the first place, to compound it to a degree *over*, rather than under the tone ultimately desired. It will also dry much paler, and, if anything, the yellow should predominate. Securing a good flesh-wash greatly assists the subsequent work, and the production of a successful picture.

3. Go over the lower lip with a limpid wash of Vermilion; if very dark, Rose Madder and a little Orange Chrome may be used. Be careful to produce no hard edges. Indian Red is the generally accepted color for the upper lip (it being for the most part in shadow), and it is often necessary to enliven this Red with Lake, or a previous wash of Vermilion.

4. Detail the most important shadows of the face, and, as near as possible, to their full strength, with the general shadow color, the red predominating. Many of the shadows, particularly those under the chin, and sometimes the lighter

one on the brow, can be put in with Indian Red alone. The other general shadows are in the sockets of the eyes, on the lower part of the nose, and under it, and below or behind the ear. The shadows are to be partly washed and partly hatched.

It is here necessary to remind the student of one *very* essential point: *Keep all the flesh-shadows* TRANSPARENT. Endeavor to manipulate the color so as to be able to *look into* the shadow; and, as photographers rarely arrange their screens so as to save the artist this labor, it is important that the matter be understood and attended to. Therefore when blackness occurs beneath the eyebrows, under the nose, behind the ear, under the chin, or on the shaded side of a three-quarter face, a thin wash of Vermilion, Light or Venetian Red, will suffice. If the shadow is intensely dark, use the color stronger—avoiding a heavy or daubed appearance—the Vermilion, too, being opaque. If the shadow is of an ordinary degree, the last-named are preferable. If a greenish tinge is wanted in the shadow, use a mixture of Olive Green or Brown Pink and Pink Madder.

The fourth topic of this chapter properly includes also the *reflected* lights, which produce rotundity of the flesh-parts. These should *always* be kept *warm*. For this reflex light occurring on the outer edge of the shaded side of the neck, and on the shaded side of three-quarter faces, use *very* limpid Orange Chrome with a little Burnt Sienna; sometimes Scarlet Vermilion alone.

5. Now proceed to draw the lines of the eyelid, which may be done with Burnt Sienna, Madder Brown, Lake and Sepia, or Indian Red. The last is best adapted for children. A mixture of the two first-named—sometimes allowing one or the other to predominate, according to circumstances—is very useful. Do not draw the edge of the lower lid too distinctly, as it tends to make it look contracted, and the whole eye sleepy.

With one of these mixtures the nostrils may be indicated; although where they are very large, and transparency is required in the shadowed cavity, Vermilion should be used. The partition line between the lips may also be drawn, but as the exact course of this line is too often indefinite, it is well to progress somewhat in otherwise painting the mouth before defining this line with too great exactness; the slightest error, in so doing, may alter the expression of this susceptible feature.

6. Paint the eyes; and as this feature is "the light of the countenance," and the very climax of the portrait, special attention has already been given (in a previous chapter) to the manner of doing it properly. The student need not be urged to the importance of being able to paint *good* eyes, or be reminded of how far they serve to make up an excellent portrait. He may otherwise succeed in developing a good *picture*, but badly painted eyes will always prevent his rendering a good *portrait*.

7. The coloring of the cheeks, ear-tips, chin, and the introduction of the carnations generally, may now be done. The lips having already received a local wash, should be heightened and finished with Pink or Rose Madder. The partition-line between the lips and the corners of the mouth can now be specifically defined.

8. Put on the local color of the hair, eyebrows, mustache, or beard. If the picture is a large one, it is best to precede the hair-wash with one of pure water. The form and direction of the hair is generally well indicated in photographs, but as that of the eyebrow is *not* (throughout its entire length), it is well to note here that they differ somewhat from the hair of the head; and are usually darker. They are seldom or never perfectly "arched" in nature, so that to paint them in that style is palpably wrong. They are always heavier as they approach the nose, and instead of being parallel with the eyelids, they are always nearest the

eye at its inner angle. Be sure to avoid stiffness, and the wiry manner in which the eyebrow is too often drawn.

9. Work on the blue shadows over the temples, at the corners of the mouth, and under the lower lip—using Cobalt. Also in men's faces, where may occur the bluish traces of a clean-shaved beard. Most of this must be done by stippling.

10. The face being considerably advanced, it is time to wash on the local tint of the background; although some may prefer doing this before painting the hair. However, as the hair still remains to be finished, this operation may be considered timely here. By so doing, we can also better determine the depth of color necessary for the face and hair. The effect of the untouched part of the photograph around the head is, to make the colors, by contrast, darker than they really are; but let a dark background be worked in, and then the flesh tints, which, before this, appeared dark enough, will now look considerably paler, as compared with the dark background.

11. Whenever this is the case, as it most usually is, additional color should be added to the face; but this time it cannot be washed, and must be hatched on—the lines following the direction of the features, and never crossing each other at right angles. This exigency will remind the student of our former observation respecting the advantage of a *strong* flesh-wash at the commencement of the work.

12. The principal shadows of the face having been all put in, and the lights scrupulously reserved, if it appears that the high lights on the forehead (the chief one), tip of the nose, and chin, are still insufficient to produce a good effect, they can be increased in clearness by a *slight* "rubbing out" of the flesh-wash, with a piece of very soft and clean India-rubber. Great care, however, must be used in this operation, else the rubbing—which should be done by a light, circular motion—will produce a hard edge around the light

spot obtained; whilst the surface of the paper will also be made rougher than the rest of the face. [It may, perhaps, be thought unnecessary to cover up the lights which are afterwards to be taken out; but it is universally acknowledged that lights *taken out* from a body of color are much more effective than those which are *left* during the painting.] This intensifying is sometimes effected by using Chinese White; but it is very heavy, and unless applied with extreme delicacy, produces a daubed effect. Flake White, possessing less body, would be preferable.

13. Detail can now be given to the hair, whiskers, mustache, etc. Remember the former directions to avoid a stiff and wiry appearance of the lines. Such stray locks as may lie against the face should be worked in a soft manner, using the color with less strength, and leaving no hard edge-lines. Where the hair is made to commence at the roots, at the parting, and along the temples and ears, paint with delicacy (always working *from* the roots), so as to almost blend the hair with the flesh. Soften with gray the entire line of the hair around the face. Also give some horizontal touches of strong color *in* the eyebrows, where they approach the nose, or where the hair naturally grows the thickest. If what has already been done in the background is sufficient, the outline of the head may now be softened, to avoid the effect of appearing "inlaid."

14. A general examination and correction may now be given to the entire face. Soften and round such parts as still require it. Remember that shadows indicate the form; therefore see that the stronger ones are very *full* and *warm* in color, accurate in form, and let every shadow have a gray edge. Keep the half-tints broad and cool. If any of the shadows have been made too purple, neutralize them with green; if too green, work on them with purple; if too blue, hatch them with orange (Venetian Red and Yellow). The deep shadow under the chin may have a little Sepia with it.

If the hatching has been done with a too wiry effect, work very lightly over it with a brush just moistened in plain water, to blend and soften the lines.

Although there is a little of the greenish tint in nearly all faces, it is noticeable that some contain a great deal—especially those of women and children, where it serves greatly to enhance the carnations. The edge of the shadow on the forehead is sometimes greenish, and in female faces it may be introduced delicately on the neck, and in rounding the cheeks and chin. In like manner it may be used at the angles of the eyebrows and nose. In compounding a green for this purpose, make it of a rather yellowish tone. [In recommending the use of green, however, we desire to explain to the student that this color is *not* to be used with such force as to give to any part of the flesh an actual *green* tone, but a merely green-*ish* one; and he should guard against the habit of its over-use. Nothing is more distasteful to a discriminating eye than this *abuse* of green, because it suggests disease.]

Strengthen the touches if necessary; but exercise care in giving definition to these, lest the expression become changed. Perhaps the carnations need intensifying, and the lips some additional roseate hue. Endeavor to give these last touches on the cheeks in the spot which seems to be the very outer point, and where the color naturally reaches a climax. In females, and more particularly in children, these few touches, if done properly with Pink Madder and a very little Scarlet Vermilion, will produce that delicious effect termed "waxy" or "peachy."

15. The face being now actually colored, it needs a general finishing and softening with the "cool gray tint,"—Cobalt and Indian Red—or Cobalt and Pink Madder, the "pearly" tint. Make all retiring and rounded parts gray. The general tint of the neck being paler than that of the face, its shadows are also to be made cooler. This will ne-

cessitate a liberal use of the gray before-mentioned, which should be of a bluish tint as its application nears the bosom, and upon the light side of the neck. Perhaps the working of Cobalt alone over the Indian Red shadows will give the desired gray tone in many places. It is not only proper, but important to remind the student that a clean and bright gray tone will only result when the blue is worked *upon* the red; but if in the opposite order, the gray will be muddy and bad. This gray should be used plentifully around the eyebrows, and every place where the hair comes in contact with the flesh, in order to prevent harshness. The outer terminations of the eyebrows may be so worked with gray as to appear *lost* in the flesh.

16. Attention should now be given to the painting of the drapery; but, as full directions have been given elsewhere, it is unnecessary to enlarge upon it here. However, attention has not yet been directed to the fact that rows of buttons, etc.—especially prominent on women's and children's dress—increase in size as they become distant from the focal point, the face. Remember to *correct* this faulty drawing and define them *alike* in size.

As a cardinal rule, the student should never "kill" the flesh by the selection of an improper color for the drapery, but rather choose such as will harmonize with and enhance the tone of the flesh and improve the figure.

17. It may appear singular to the student, that nothing has thus far been said respecting the arms and hands, except to assume that they have already received the flesh-wash as noticed in Section 2. Our reason is, that when the photograph contains arms and hands, it is *preferable* to reserve the painting of them until (at least) the local color has been given to the surrounding drapery—or even until it is finished, as, by so doing, the proper degree of color is more likely to be obtained at a single painting. If painted before, instead of after, the probabilities are that the strength

of the drapery-color has rendered the flesh-tint too feeble, and the work will have to be gone over a second time. Directions for the painting of these having been given fully elsewhere, it only remains to add here, that all the edges should be softened against the drapery, and kept of a tone subservient to that of the face.

[Indeed, it is a rare thing in photographic portraits, that the hands and arms are found sufficiently well posed and proportioned to add any beauty to the whole; but, on the contrary are, for the most part, too large in men, and so lanky and angular in women, as to puzzle both photographer and artist to render them, in any degree, picturesque.]

18. Painting chairs or table-covers, the introduction of curtains or other accessories, and a general finishing of the background, will almost conclude the student's labors. In so doing, he will remember to soften the entire edge of the head and figure against the background, and preserve such a unity of idea that the eye of the spectator is *drawn involuntarily* TO THE PORTRAIT, and not misled by any over-colored accessory. It is opportune, also, to warn the student against bad taste in breaking down his picture with too many accessories, or too much elaboration in the background: remembering that it is only proper to add curtains, carpets, and the like, when it is *desirable* or *necessary* to assist the position, or introduce a color as complementary to the drapery of the figure, and, therefore, give it additional beauty and power.

19. The work of painting being now finished, thin Gum Water may be applied where it is necessary to produce brilliancy, and to give depth to the extreme shadows. But, as heretofore advised, it must be used with great caution, in order to avoid harshness and a vulgar effect. The less that is used the better.

Sometimes the surface to be painted contains small specks, little discolorations, or foreign matter in the paper, which

must be got rid of; and which, if they have not been totally obliterated in the process of coloring, should be touched out of sight with opaque color, Flake or Chinese White, tinted to suit the locality; but this operation must be done with great delicacy, and the color used not too heavy, else the touches will have the appearance of pimples. Frequently it becomes necessary to use the eraser, after which the spot must be burnished down, and sometimes retouched with body-color.

20. In conclusion, the attention of the student is called to the fact that, as he is supposed to have been gazing *uninterruptedly* at the picture before him, the eye is apt to weary, and he may overlook deficiencies which he would readily detect at another time with his vision afresh. Therefore, it is recommended him to ease his eye by *reversing* the position of his picture, which can be done conveniently by viewing it in a mirror, and, this being done, he will not only find the change agreeable to his eye, but he will also be the better able to discover any existing faults, which, otherwise, might have passed unnoticed. The use of the mirror is especially an excellent method of testing the correctness of his *drawing* in the background and accessories.

Indeed, during the whole work—say about once every hour—it is advantageous to leave the easel, or cast the eye upon something else, for a few minutes; thereby relieving the strain upon its focus and giving it rest. Furthermore, after looking some time at a *color* the retina becomes fatigued, and to a certain degree incapable of seeing it as it is; wherefore, unless it can be restored by looking at the color compensatory to that by which the strength was impaired, *rest* must be had.

NOTE.—The foregoing chapter has been written on the supposition that there has been but *one* copy of the photograph in hand, because it is more desirable that the stu-

dent should exercise *care* with *one* than *indifference* with *two*. Nevertheless, the advantage of a *duplicate*, when it can be had, is important, and which, if it does no good, it certainly can do no harm.

Working in India-Ink.

To those who are not conversant with the details of a photographer's labors, we may say, that *very few* negatives are manipulated *so* perfectly as to render the prints made from them *totally free from speck or blemish*, however slight. These imperfections, arising from the use of indifferent chemicals and bad handling, and sometimes from causes beyond the operator's knowledge and control, are much more likely to appear in the production of large than in small-sized negatives and pictures.

The presence of these imperfections, and the consequent necessity of "touching them out" of sight in the photograph, doubtless give rise to that description of artistic labor of which this chapter treats. Commencing as a simple *necessity* with the photographer, it has advanced, in the hands of the artist, to results among the finest and most appreciable in modern art.

The pigment known as India or Chinese Ink having been always used by architects, engineers, and water-colorists, as an acceptable black, was naturally adopted by the photographic profession; and although its original use—for Oriental chirography—is as a positive black, it is susceptible of giving, with clearness and beauty, all the shades between black and white.

Notwithstanding it is beautiful, delicate, and transparent, it will generally be found wanting in *power* for the deepest effects in large work—Lampblack being preferable—although a certain degree of strength may be obtained by adding the latter to the former, without impairing its characteristic beauty and clearness.

The greatest difficulty, however, is to obtain a piece of *genuine* India-Ink—most of that in the market being an imitation. The spurious article will be found very highly scented with musk, and containing so much gum, that it is very hard, and too glossy. The possession of *genuine* Ink, having a *neutral* tone, is no small advantage at the outset, for the accomplishment of acceptable work.

[In recommending the *neutral* tone for Ink pictures, we may, doubtless, antagonize the predilections of the few who favor "warm" tones, but we are pleased to remember that a large majority of the best artists work *the neutral.* The "warm" advocates aim to imitate the purple-brown of an albumen print—to attain by a *process* that which is simply a *result*—and, in our opinion, fail. The attempt to manipulate "warm" tones generally results in producing only *muddy* pictures; whilst the neutral cannot fail to be clear, clean, and brilliant.]

India-Ink Work (as it is commonly called) is simply *drawing* with the brush and color, instead of the pencil or crayon. It is therefore very conclusive that the student who has the most knowledge of the art of drawing, will accomplish the most in India-Ink work. The principles which govern light and shade—*chiaro oscuro*—comprise the very foundation of success in this branch, and should be perfectly understood.

The advantage of color to assist in imitating an object is wholly absent here; and a favorable result must depend entirely upon the correctness which has been given to the form, together with its lights, shadows, reflexes, strength, or delicacy, and tone. Especially is this the case when working up the pictured human countenance; and whatever be the knowledge or ignorance of facial anatomy, with the student, it will become apparent in this branch of his work. He may very often be required to display his abilities upon faces which over-intense negatives have made

perfectly white and flat—devoid of half-tones, and perhaps without any graduated shadows at all—in which exigency he will at once discover the absolute *necessity* of acquainting himself (to some degree, at least,) with anatomical drawing.

The order of procedure with Ink is about the same as with color: commencing by a definition of the heavy lines of the face, and continuing the same with the hair; thereby imparting a vigor quite different from the untouched picture. Such details in regard to the manner of working—drawing—the features, respectively, as have already been given, will suffice to guide the student here; besides which, the photograph itself will assist him more than in the former case, where it was partially obscured by local washes.

In using the pigment itself, the best form is that akin to a wash. It should rarely be applied thick enough to accomplish the desired shade at once—except in positive lines, such as occur in the hair. The weightier tones, required to give strength to the deeper shadows, must be obtained by successive applications of a moderately thin wash, else transparency will be lost, and sootiness ensue. The student should take as his motto, "Little Ink and much labor."

The flesh must be worked as heretofore mentioned, and reduced to evenness by going between and around the spots and rough places, as photographed from the skin. In so doing, commence with the stronger portions, and proceed toward the higher lights, at the same time reducing the strength of the Ink-wash. If the print is of neutral tone, there will be no difficulty in obtaining a clear, silver-gray light on the forehead, nose, and other prominent parts. It is quite convenient to have two washes at hand—one toned with blue (Cobalt), for use in the light parts, which should be clean and brilliant.

In general the face can be *finished* before the drapery

and background are touched; except it be a vignette head on a white ground, in which case the washes that are to serve as a basis for the clouding should be laid *early* in the work. This will enable the student to estimate his tone and strength of shade, which will appear much lighter after the washes are completed.

The remaining portions of the picture are to be finished according to instructions given in previous chapters. It should be observed, however, that as the photograph gives *no true* indication of the color of hair and eyes, it is well to ascertain *what* they are, so that there be no uncertainty whether to work them with a tendency toward light or dark, as the case may require. Without this knowledge the photograph itself may induce grave errors; whereas it is *intended* that, in Ink-work, the natural *color* shall be, as near as possible, indicated by the *tone* and *depth of shade.*

The drapery in most instances will have to be done with Compound Black. India-Ink lacks power, except when used very thick, and *that* is not to be permitted, as it would totally obscure the texture and smaller folds. Lampblack possesses abundant strength, but is also too opaque; whereas the Compound Black—Indigo, Lake, and Sepia—is no less transparent than powerful, fresh, and permanent. Nor has India-Ink, of itself, a good tone for drapery; although it may sometimes be used in vignette pictures, which, as a rule, do not require, and should not have, the *strength* essential to the drapery of a bust or figure with solid background.

The hands are most generally surrounded by the drapery, and for this reason appear too white; especially so as compared with the face. It is therefore necessary to *break* this whiteness by a wash, preparatory to further working; and then, when being modelled, great assistance is derived by rubbing out the lights as they occur on the knuckles and joints. Remember, too, how the outer edges of the hands, along the black drapery, need a blending touch of *pure*

(normal) gray. "Colored" gray must never be used in Ink pictures.

Photographs to be finished as "India-Ink work," should be printed a little darker than usual, from the fact that they work up *lighter*, and in order to secure all the half shades. Those are *best* adapted to this branch of the artist's labors, and most easily finished, which abound in the *half* shades; which, being well developed, the student or artist will have no difficulty in working up the high lights or graduating to the deepest shadows.

If blue (Cobalt) has not been used in the modelling, as suggested, to impart a brilliant tone to the delicate shading about the highest lights, clearing them up to a beautiful gray tone, it must be worked in now; but it must not be carried so far as to disclose the presence of, and actually look, *blue*.

In the smaller-sized pictures, it is often desired that the cheeks be tinted; and, indeed (though it may not be strictly artistic or legitimate), it is not to be denied that Pink Madder is of great assistance in warming the tone, and giving freshness and the effect of rotundity to the cheeks.

Sometimes, also, a delicate first-wash of Indigo may be laid, with good results, for the clouding about a vignette head; but it should *not* be done if the photograph has anything of a muddy or brownish tone. The pure tint of the Indigo conflicts with any tone but the neutral or gray, while it also tests the cleanliness of the brush-work.

India-Ink work is always expected to be done on "plain" paper; but if it is desired to retouch or work up a face on *albumen* paper, it will be necessary to mix a very little Gum Arabic with the pigment, to give it adhesion sufficient to overcome the "grease" of the albumen surface.

Copied Pictures.—Perhaps the most popular and important use of the India-Ink process is for working up photo-

graphed *copies* of old daguerreotypes, ambrotypes, miniatures, reproducing photographs, etc.,—valued likenesses of deceased friends—and, by this means, restore the faded or injured picture, rendering it suitable to be framed.

As the imperfections* of the copy can, for the most part, be more easily corrected and hidden by the India-Ink process than with color, it is preferred. The specks and blotches must be stippled over in the dark parts; and, in the light parts, if they cannot be taken out by working, or with India-rubber, they may be covered with Chinese White, or gray, as the situation demands. In doing this, however, apply the body-color lightly, so as to avoid touches that would resemble pimples.

As a general thing, the working up of copies will require *more force* than a photograph from life; and *more care* too, from the fact that the enlargement of the copy has produced diffusion of the lines and a general indistinctness. Frequently this extends to such a degree as renders it *impossible* to work without constantly referring to the original for guidance; and the student is advised, for these reasons, not to undertake a *copy* unless he has the *original*,—or is otherwise thoroughly posted.

The method of Pastel will probably be employed more frequently in doing these copies than for any other purpose, and the student is now referred to the former chapter on *Gray Pastel for India-Ink Work.*

* [NOTE.—The great majority of these old 'types having become impaired by time and dust, or injured by rough and careless handling, make horrid-looking copies. Every spot and scratch, if even invisible to the eye on looking at the original, will magnify to a mountain in the copy. If the copy is to be made from a *carte de visite* or any picture on paper, the surface of it, although seemingly very smooth, will be found very rugged under the magnifying influence of the camera-lens; and the lights and shadows of these surface projections, appearing in the copy, will add greatly to the amount of labor to be done in completing the picture. If the picture to be copied is on *albumen*

The Use of Other Pigments.—The difficulty already mentioned of procuring the *genuine* India-Ink, and a dislike of the poor imitations with which the market abounds, has necessitated the adoption, to a certain extent, of other pigments and compounds for this species of pictures; although the old and familiar name of "India-Ink" still attaches to the finished work.

Among these substitutes, perhaps the most useful and the simplest, is Lampblack, with which (if the cake is perfectly neutral in tone), the student will be able to produce every gradation and depth of shade—though not with the delicacy and clearness of *good* India-Ink. Lampblack is chiefly available for large work, and being opaque, also accelerates the labor; because every touch of the brush produces an instant and permament effect, whereas India-Ink dries considerably lighter than when freshly applied. If a warm tone is desired, add a little Sepia and Lake. An excellent combination is, to add some Dragon's Blood to the Lampblack, and then just enough of Indigo to correct or neutralize it.

The Compound Black—Indigo, Lake, and Sepia—is also a favorite mixture for this purpose, and preferred to Lampblack for small-sized work, where fineness is more essential than power. It may be composed with a cold or warm tone, by allowing the first or the other two to predominate; and this choice gives it the advantage of being applicable to almost any tone of the photograph. It is beautifully transparent, and can easily be manipulated with clear and clean results.

To obviate the fugitive quality of the Lake contained in the mixture, and secure the utmost *permanence*, the Madders can be used instead; although these will be found slightly

paper, much time and work can be saved the artist if photographers will "roll," *i. e.*, *press* the picture a number of times, making it as smooth as possible.]

objectionable from the fact that they are deficient in power, hard, and do not work so kindly.

In all descriptions of "India-Ink Work," after the necessary shadows have been defined, the use of White—Chinese or Flake, according to the brightness required—must not be forgotten for collars, laces, linen, and other pure lights. Opaque gray (Lampblack and Chinese White) will also be applied for the half lights, according to situation. Gum Arabic, used sparingly, will produce the extreme depth of shadow, and give lustre to the hair, eyes, jewelry, buttons, etc. Remember, too, that upon *black*, more than on any color, the Gum produces an instant and powerful effect.

Painting on Porcelain.

Whether plain or colored, porcelain pictures are avowedly superior in softness, finish, and brilliant effect, to anything which the photographic art has thus far accomplished. The skill of the artist is here greatly aided by the delicacy of the surface on which the photograph has been executed, and the result is a pictorial effect far surpassing that of the finest miniatures on Ivory, and produced at very much less expense.

Porcelain photographs intended for coloring, must be invariably made on plates which have a granulated, and not a polished, surface. It would be folly to attempt the application of water colors upon the latter, for general purposes; but it *can* be done, to a limited degree, after coating the plate with a thin solution of white glue. The granulated plates, however, which are specially prepared for the purposes of coloring, give a sufficient "tooth" to hold the color, and afford altogether a better opportunity for working.

For the most part, the handling is the same as for photographs on paper, except that the following points must always be kept in mind: You paint *into* the paper, whilst you

paint *upon* the porcelain; the paper *will absorb* the color, the porcelain *will not.*

Consequently, a less amount of the work can be done by washing than on a paper picture; and by far the greater part must be performed by hatching and stippling.

Even the small amount of washing necessary, must be treated peculiarly, viz., it should be commenced with a *full* brush, which should not be lifted from the plate until the part to be washed has been entirely gone over, unless it is absolutely necessary to do so for more color. It is best always, when possible, to *start* with *all* the color required. In washing, the brush should be moved regularly and steadily; very slightly raised from the surface, or scarcely resting its own weight upon it; in a horizontal direction; and serving rather *to guide the flow* of the wash than to be the instrument for laying it on.

As there is no absorption, it will, in general, be found necessary to make the wash considerably *above* the tone required when it is dry. *Never go back* with the brush to retouch any part of the surface not yet dry, as it will "wash up" instantly.

In treating photographs on porcelain, it is quite *essential* that all the color used should have a very little pure Gum Arabic mixed with it, to give it strength and adhesiveness, but the utmost watchfulness is required to avoid the temptation of making a *too* free use of it. Porcelain painting is so excessively tedious, that the student's patience is likely to become exhausted, and so sure as he endeavors to obtain "the more haste" by the over-use of Gum Arabic, he will ultimately find it "the less speed," as his work will only crack and peel off. Porcelains persecute patience!

What has been said above concerning the use of gum, is to be understood as applying to the *transparent* pigments, rather than to those which are semi-opaque, and not at all

to the real body-colors: Chinese White, Vermilion, Orange Chrome, and Emerald Green.

In hatching and stippling, let this be a fixed rule: *Never give an after-touch until the previous one is entirely dry;* or, in other words, do not give two successive touches on the same spot. Where additional depth and strength of color is required, it must be obtained by successively working over; and it will be found no easy matter to do this with regularity of shade and evenness of surface. If this *can* be accomplished, however, it will surprise the student to discover what a solidity and strength can be attained, after all, in the porcelain process; and that in these qualities it is no less capable than in those of delicacy and beauty.

While engaged in the work of painting, the hand should not be permitted to rest upon the plate, as it will impart grease, and interfere more with the adhesiveness of the color than is the case on paper. If no rest-stick is used, and the hand must find support on the plate, use a piece of paper underneath it.

It will be found that the smooth and non-absorbent surface will require the almost constant use of a *rather dry brush*, and not much color in the lighter parts; in the heavier parts the color must be quite thick, but not by any means so thick as to make a daubed appearance.

The majority of porcelain pictures are done in vignette style. This requires attention to the clouding about the head, and affords a fine opportunity for delicate aerial effects. After the cloud-wash is dry, the edges can be beautifully softened by gently patting them with the end of the finger, covered with a handkerchief or cloth, and very slightly moist. In addition to this blending, semicircular white spots should be washed out with the brush, like openings; and, if done in imitation of nature, these simple expedients add much to the general result.

If the picture is a copy, and contains any of the usual spots

and streaks, they can be stippled out with Neutral Tint. Gold should be done by first laying a base with Roman Ochre, thick; then add high lights of Indian Yellow and Chinese White. All clear, brilliant "touches" will need to be done with body-color.

The *correcting of errors* is easily done by moistening the part to be altered, and washing off the paint with clean water. This is a simple, though a nice operation, and must be done so as not to damage the adjacent parts. Indeed, if the entire progress which has been made in painting, does not please, the *whole* may be washed off; but this should be done under a *flowing* stream of clean water, in order that none of the color-matter be allowed to remain elsewhere upon the plate after it has become detached from the picture itself, as it would leave just enough of a stain to soil the purity of the granulated surface. In this respect, porcelain even offers an advantage over paper, and often a very important one, too; often seeming almost *compensatory* for the extraordinary degree of time and patience required in its general manipulation.

Another method of correcting errors, particularly with regard to tone, is by *scratching off* the color with the eraser or a smooth bit of pumice-stone. This should be done with parallel strokes; except in the flesh, where the pumice-stone is preferred and should be used with a circular motion. The latter also gives one means of putting high lights where they are principally deficient in the flesh — especially the principal light on the forehead. Parallel scratch-lines, at an angle of forty-five degrees, or less, give atmospheric effect to the clouding about a vignette head.

With regard to the *subjects* most desirable for a painting on porcelain, the student will discover, after a little practice, that a child's picture (vignette head), is the most pleasing to work upon; and he will feel justified in giving it the benefit of *all* the resources of the porcelain method. He

will naturally and unconsciously incline toward the *ideal* in treating these innocents; and, in addition to a *preservation of the likeness*, he will strive to make *a beautiful picture.*

Women's portraits will claim his preference next in order, but he will find them rather less inspiring to his genius. The necessary use of a more decided style of working, stronger lines, and the introduction of so much drapery, together with the accessories, which require abundant patience, will, doubtless, cause him to wish that he was working on paper.

Last of all, and least of all, will be his ambition to delineate the face of a man, in a way which finds no parallel in nature. The vigor, strength, and breadth with which he would feign characterize *manhood*, are not attainable by this process; and the inevitable result *must* be a *beautiful* man! a wax-figure! a painting which, instead of "holding the mirror *up* to nature," goes immeasurably and absurdly *beyond* it!

Ivorytypes.

The invention of the Ivorytype is awarded to Mr. Wenderoth, the distinguished Philadelphia artist. Upon the introduction and use of the Porcelain surface, however, as a basis for the colorist's work, the days of the once famous Ivorytype, it may be said, were numbered, as it is impossible ever to achieve, in the production of the latter, the brilliant tone and delicacy of finish which is incident to, and inseparable from, the porcelain picture.

In a few words, the Ivorytype is simply *a painted photograph sealed to a clear glass plate.* There are a number of points, however, in which the operating of the picture for the Ivorytype *differs* from that of the ordinary painted photograph, namely:

It must *not* be mounted on pasteboard, but stretched tightly upon the drawing-board. In order to do this, the

photograph should be printed on a piece of paper which will allow sufficient margin for pasting down. Moisten the entire sheet and lay it flat on the board, permitting no air-bubbles to remain underneath. Paste down all the edges, and let it dry slowly, keeping the board perfectly level. As the contraction of the paper in drying will cause a very hard strain on the pasted edges, it may be advisable to have them secured by tacks or weights.

The photograph thus mounted upon the drawing-board, is to be treated with special attention to the following particulars, viz.:

1. The painting must be executed with more than ordinary vigor and force, so as to provide against the diminution of tone and effect which, it will afterwards be seen, follows on sealing it to the glass.

2. No body-color should be used, except when actually necessary. In laying on the white for laces and the light parts of linen, etc., do it very lightly—perhaps Flake White is best.

3. Give preference to the *transparent* colors; for, as the object of the wax is to render the entire picture transparent, it is plain that opaque colors will resist its effect, and seem to lie dead and hard upon the painted surface.

4. In working certain folds of the drapery, it is better to *preserve* the lights as they are in the photograph, than to restore them with the aid of body-color. For the light on the eyes, however, and a few other special points, Chinese White can be used with propriety.

5. Do not use a particle of Gum Arabic, because it will prevent adhesion to the glass plate; and if the deep lines and shadows are painted with sufficient strength, its ordinary use as a varnish will be supplied by the wax.

When the painting is completed, lay the glass plate—which must be perfectly clean and polished—upon the picture; and being properly adjusted, *cut out* the painting so

as to exactly fit the glass (unless there be reasons for doing otherwise); but it is a great advantage, in the hurried operation of sealing, not to be obliged to adjust the picture then —which would be necessary if it were larger or smaller than the plate.

The composition-wax used in sealing is variously compounded by different artists; but a mixture of one part of Gum Copal with two parts of pure white wax will suffice for ordinary purposes.

The operation of *Sealing* may be described as follows:

Heat the glass until warm enough to melt the wax-composition while being passed over it in a horizontal position. Let every part of the plate be thoroughly coated—as it is the Gum Copal which gives lustre to the finished Ivorytype. While it is still warm, lay on the picture, face to the glass, in such a manner as not to work off any of the melted composition, or to produce wrinkles, or leave any air-bubbles underneath. The back of the painting is now supposed to be uppermost. Keeping the plate still warm, rub a piece of pure white wax alone slowly over the back—melting as it moves—and then, with the straight-edge of a small bit of card-board, held almost perpendicularly, smooth the picture down flat upon the plate. In doing this, rub gently *from* the *centre* in every direction toward the margin; and be particular to push out the very last crease or air-bubble. Do not press the card-board hard enough to drive out *all* the composition first laid over the plate, else the brilliancy of the work will be lost. As before-mentioned, the Gum Copal imparts the brilliant effect, and the wax gives it transparency.

It will be readily seen that this operation must be done with quickness and certainty; and hence it is best to have everything fitted and prepared *before* the sealing is commenced.

The painting being attached to the glass, it now only re-

mains to fit a piece of pure white paper (card-board is better) to the back—the effect of which is seen through the transparent picture—and the Ivorytype is completed. Before doing this, however, it is well to consider the extent to which the colors have *faded out* in the process of sealing; and if they need restoration and strength, apply some additional color, in its proper place, *on the back* of the sealed painting. This necessity is most likely to occur with the carnation-tints.

In selecting a glass for this purpose, French plate is the most desirable, and any other than pure *white* glass must, necessarily, somewhat mar the general purity of the work. Ordinary glass having a greenish tint, should not be used, if possible; and equal care should also be exercised to obtain plates entirely free of streaks, bubbles, or scratches.

☞ It may be opportune to remark here, that in *framing* Ivorytypes, no *white* paper should be placed in contact with the finished work, as it would "kill" the so-called whites in the picture; and, by a prejudicial contrast, lower their tone into a degree of unavoidable yellowness produced by the wax compound. Ivorytypes should *always* have a rich *gilt* frame, the sight-opening of which will cut the picture.

Beautiful as the Ivorytype is, when first finished, it becomes liable to serious discoloration. The wax-composition, no matter how pure the ingredients, will, in time, produce sufficient yellowness to mar its original beauty. Notwithstanding this deficiency, however, it is easy to suppose that, but for the introduction of its greatly superior rival—the Porcelain—its glory would doubtless have remained undiminished, as an excellent and practicable successor to its prototype, the Ivory Miniature of "auld lang syne."

Large Solar-Camera Pictures.

The handling of the large-sized solar photographs is a matter of progression. If we can safely premise that the student has become thoroughly familiar with *the principles* involved in, and the directions for manipulating smaller and medium-sized photographs, our observations under this head need tend only to an expansion of the knowledge he already possesses.

The important characteristics of the successful solar picture, are force, breadth, easy handling, and a total absence of timidity and delicacy. The washes must be done broadly and with an abundance of color; and the lines given without trepidation or stiffness. The finished pictures should indicate, on the part of the worker, a sufficiency of knowledge and a mastery of the brush.

According to the instinctive laws of vision, *a picture should be viewed at a distance equal to three times its size.* Indeed, a more distant point may be agreeable, but rarely one nearer; except with persons of defective vision—and even then the eye wanders over, rather than embraces the whole. Consequently, it is plain that the entire handling must be prosecuted with a clearness and power sufficient to realize the desired effect when viewed at the proper distance.

It is scarcely to be expected that the student will accomplish this without considerable practice. His previous work has been of dimensions which could be inspected perhaps without rising from his seat; but *now* his manipulation, horribly coarse at the drawing-board, is softened by the prescribed distant view,—and it therefore follows that only by constantly taking this view-point, can he watch his progress and attain the true result.

The student has learned (in a foregoing chapter), that Hatching is the most desirable and effective manipulation for large pictures, and he will therefore adopt it for solar

work. The time of Stippling has passed by, except for some few necessary touches, and the disposing of spots. The small-sized brushes must give place to larger ones, color must be prepared and used without stint,—"laid up loose," —and a more artistic style of action adopted throughout the whole working.

It is impossible that this description of labor can be performed with ease and convenience at a desk or table. The *Easel* here becomes a necessity, and so too the *Rest-Stick*. The length and strength of the hatch-lines, which the student will now endeavor to draw with a graceful sweep of the brush, demand a firm support for the hand, and an almost vertical position of the drawing-board—except in flowing the washes. The dimensions of the picture also *forbid* that the arm should be constantly wiping over its surface, which would be the case if lying nearly flat; and the facility with which it can be raised or lowered so as to bring the working-spot right to the hand, clearly demonstrate the expediency of using the Easel *now*, if never before. Especially so, if the background is to be done in pastel, which would be marred by the very slightest touch—and this too makes the Rest-Stick indispensable.

If the solar at hand is to be done in (the so-called) "India-Ink" style, the student must not forget what has been already said concerning the inefficiency of the India-Ink itself for large work, and the usefulness of Lampblack. The Compound Black, when mixed to a deep tone, is also quite available for solar prints, and important in finishing the drapery. Indigo added to Lampblack, gives a depth sufficient for any shadow the drapery can possibly require.

Framing the Pictures.

The framing of a picture can scarcely be regarded as a matter of *taste* alone.

Though not strictly true, the *theory* of photographic paint-

ing is, that the work has been done *upon a white ground;* as is the case in *pure* water color painting, where the transparent pigments so modify the light falling upon and being reflected from that white surface, as to produce the effect constituting the picture. Hence, *some indication* of the *presence* of this supposed *white ground* must be given.

In vignette pictures there is frequently sufficient white margin to answer this purpose; but if there is not, or when the background is solid, a *white mat* becomes indispensable. The use of a *tinted* mat is, to say the least, dangerous; and only permissible when it is of a tint harmonious with the general tone of the painting, or entirely *neutral;* and even then it must have an inside edge of white. The use of tinted mats requires considerable judgment to make a *proper* selection, whilst the *white* ones are "always in order."

India-Ink work, which is *intended* to imitate *an engraving*, must never be margined *by anything else* than WHITE! The juxtaposition of a colored mat (especially if the hue be rather intense) is sure to damage its purity in many ways; reflecting improper tints upon its high lights, and giving a sooty appearance in the heavy shadows. The *immediate contact* of *gilt* with Ink work and a pastel ground, is death! and is *never* to be allowed.

Colored pictures should have a *gilt* frame; and if ample white surrounds the painting, it will be seen that the white purifies the colors and the gilt purifies the white. Colored Porcelains—vignettes—are greatly enriched by the addition of a line of velvet, coming between the white surface and the gilt frame. The color should be deep and rich; and the opaque, dull texture of the velvet, whilst it gives wonderful purity to the white of the porcelain, also harmonizes splendidly with the gold (gilt) of the frame. Porcelains require, and can bear, the very richest setting; reverse this, and use a dull *walnut* frame, and the result will be a pictorial monstrosity!

As the beauty and value of the jewel is enhanced by the setting it receives, so is the character of a picture improved or debased by the manner in which it is framed; and in violation of the *principles* upon which *good* framing is based, it is to be regretted that the educated eye is too often pained by evidences of the most deplorable ignorance among photographers—who should *study* to *know better*.

Retouching the Negative.

This is, perhaps, the most conspicuous feature in the present advanced condition of the photographic art. Though not a matter of *coloring*, it nevertheless comes *properly* within the *artist's* sphere of labor; as its successful execution presupposes a certain knowledge of drawing, modelling, light and shade, and ability to handle the lead-pencil and brush.

The practice of retouching negatives (as the term is now understood) originated in Germany. Lithographic crayons, color-pigments, India-Ink mixed with Gum Arabic, Lead-Pencils, and other materials have been tried; but the two last-mentioned have proved the most useful and worthy.

Notwithstanding the processes of retouching are various, according to the *subject* of the negative, it will be sufficient to confine this chapter mainly to the handling of *portrait*-negatives; and in this connection we are happy to be able to furnish the method originated by the distinguished artist-photographer, Mr. WILLIAM KURTZ, whose large experience and wonderfully beautiful specimens serve as ample guarantee for his teachings, as follows:

* "By way of illustration, let us suppose the negative in

* These directions are generously communicated by Mr. Kurtz, *expressly for this book*, and we would recommend photographers and others, visiting New York, not to omit a visit to his gallery, No. 872 Broadway, where can be seen most perfect specimens in the art of retouching, and examples of "*how* to paint photographs," surpassingly beautiful.

hand to be that of a man having freckles, deep wrinkles, with light hair, reddish whiskers, mustache, etc. The negative is first varnished with the ordinary negative varnish, which, when dry, should present a surface as smooth and nearly as hard as the glass itself. Make a proof of this, and it will be seen that the freckles show as black spots, whilst the hair, mustache, whiskers, etc., appear as if dyed. To make the latter lighter, so that they show *blonde*, and to remove the black spots quickly, the following plan is to be pursued: A little finely powdered pumice-stone is put on the face and gently rubbed over with the ball of the little finger, and the surplus carefully dusted off with a soft brush or a soft rag; this gives a 'tooth' or 'biting' surface to the varnish, without in the least injuring the collodion film beneath. It will now be found in a suitable condition for touching out (with a pencil) all the spots in the face, pinholes excepted. Of course, some knowledge of stippling and drawing is indispensable, for the modelling of the face must not be disturbed; and only the *imperfections*, which appear semi-transparent, taken out. These will not show as plainly as pinholes, which must be *filled up entirely* with a fine brush and India-Ink; but the freckles only requiring half the amount of filling, can be done with a lead-pencil, which is quite opaque enough for this purpose.

"A '3 H' *Faber's* pencil will be just the thing to remedy these in the shadows, as there is less filling up to be done; and a '1 H' Faber should be employed for the light side of the face, as the holes are deeper there,—the surrounding film being thicker.

"If the line along the nose, also, is very narrow and black, a fine brush and Ink will be found better adapted than the pencil. It must be filled in with *thin* Ink and Gum, care being exercised not to fill it up entirely, as this would cause it to show white, and at once destroy the modelling and the likeness.

"If the shadow under the chin is smooth enough but *too dark*, do not attempt to lighten it by stippling, thereby making a number of light spots all over (and giving the effect of a diseased skin), but make use of a *stump*,—and herein lies the great advantage of my system, namely, you can lighten a surface with great ease and rapidity without destroying the drawing or the modelling.

"The stumps usually sold are not well adapted for this purpose, being both too soft and too thick. In order to make a stump suitable for retouching, take a piece of unsized paper (*i. e. printing* paper, such as used in books), neither too hard nor too soft; cut a strip about 8 inches long, 2 inches wide at one end, and a half inch at the other; turn the small end over between the thumb and forefinger and roll it up tightly into a hard roll or stump: a little practice will soon enable you to regulate the making of a sharp or a dull point, as desired.

"Now take a '6 B' Faber, which is very soft, and scrape off some of the lead on a piece of paper. Fill your stump and go gently over the shadow under the chin, whiskers, mustache, and also the shadow of the hat on the forehead, if any, and in fact over all those parts which need to be made lighter.

"Be careful not to have too much lead on your stump, because the first touch on the negative is very apt to show too strong; it is better to try it first on the edge of the plate and work the surplus off. Should the stump be too full of lead, you will produce a spotty surface; this must be carefully avoided, since it cannot be removed by rubbing. Indeed, no amount of rubbing with India-rubber, bread, or anything else, will accomplish this; the rubbing will merely have the effect of polishing it; and it can only be removed by a further rubbing with the pumice—a necessity, however, which it is best to *avoid* by previous carefulness.

"If you should not get enough lead on, with the first ap-

plication, go over it again—little by little—until you have reached the required degree of opacity.

"When I first made use of pumice and a lead-pencil, and mentioned it to my photographic friends, they were of opinion that the delicate shades of the lead would soon wear off; but this is a mistake, for it adheres so firmly to the roughened surface of the varnish, that the hardest rubbing with India-rubber only has the effect before mentioned, namely, to polish it; hence the necessity of *care* in order to attain the proper manipulation.

"India-Ink mixed with Gum Arabic is very apt to crack off in the printing-frame when heated, and if mixed with too much sugar (to prevent this cracking off) it will stick to the paper when damp; therefore lead is much better. Yet India-Ink possesses great advantages, and can be used with certainty when the gum solution is composed of six parts of Gum Arabic with one part of rock candy (*rock* candy only), which will have about the right consistence.

"The details in the beard or in the hair, on the shadow side, can be drawn in with a Faber (neither too hard nor too soft), immediately over the stumped part; and if this does not accomplish the object, it will do a great deal towards it, while a little brush-work in India-Ink over this will be sure to effect the desired end.

"In a weak, flat negative—as, for instance, a *copy* of a Ferrotype—a fine stump and powdered lead will do a very great service; you may rub somewhat down the nose, upon the cheeks and under lip; and with a brush and Ink, make the shirt-collar more opaque, thus producing at once brilliancy and finish.

"In a negative where the sitter having moved there has resulted a blurring of the eyes and a double contour of the facial lines, a few judicious touches with the lead-pencil will have a wonderful effect in removing these blemishes.

"The Faber pencils known as '*Siberian*,' are those which

I should recommend, as they come in a great variety of grades. No precise directions can be given to the student; *he* must make his selection according to the work to be done. Use a piece of *sand-paper* for sharpening the lead; and the same also for sharpening and modelling the stump. Easels having different sized 'kits' to suit the negatives, can be procured at the stockdealers, and are known as 'Retouching Easels.'

"We come now to the subject of *Reproductions*. Before I discovered the great excellence of pumice-stone to roughen the varnished surface, I used a varnish composed of rosin, dissolved in alcohol, and colored with iodine. The plate being flowed with this, all those parts intended to be darker in the print were rubbed off, little by little; as the rubbing progresses the varnish assumes a powdery consistence and can finally be rubbed entirely down to the glass surface. By this method the edges can be perfectly blended, and do not present that abrupt appearance, as in the case of scraping these parts out with a knife, or similar instrument.

"The process of retouching is also highly advantageous under circumstances like these: In flowing collodion over the largest sized plates during very hot weather, when the upper part of the plate is 'set' before the lower part has entirely drained off—thereby giving a film which gradually thickens toward the lower edge, and the bad effect of which was apparent in the proof-print—I overcame the difficulty by simply rubbing the whole varnished surface of the negative with the powdered pumice; and then applying the lead, commencing at the thin side of the film and gradually blending away into nothing at the thicker side. This will result in a uniform density and render the negative quite perfect."

Memoranda of Practical Art.

In the preparation of this work, many art-truths and other memoranda were incidentally suggested and culled from

various sources, which cannot be properly included under any special heading; maxims derived from recognized principles of the art of painting, and brief instructions easily remembered.

These we propose to add herewith, although it is quite probable some of the *ideas* may have been previously given. It is not unlikely, too, that *the beginner* may fail to comprehend the import and use of many of them *at first;* but, as he progresses in *practical ability*, he should make an effort to increase his *theoretical knowledge* also, until his hand and head shall work together understandingly, harmoniously, successfully.

Endeavor to preserve transparency in all the shadows.

All retiring parts partake more or less of gray.

The high lights of flesh should be of a yellowish-white.

Strong shadows should be warm; those of flesh (which is semi-transparent) always incline to red.

All shadows of flesh must have gray edges. This prevents hardness, and gives a rich effect.

The reflected lights of flesh are warmer than the surrounding parts.

The darkest parts of shadows are near their edge, the middle being illuminated by reflected lights.

Flesh, as it retires from the eye, appears to grow colder in tone.

A judicious subordination of the half-lights to those which are more prominent, insures brilliancy.

Lights are less affected by distance than shadows, which grow paler as the distance increases.

The highest lights have generally but little color, for all color is a deprivation of light.

Warm colors, or those approximating to red or yellow, advance; cold colors, or those approximating to blue, retire.

Contrasts give brilliancy of effect, but they should never be violent or inharmonious.

Colors should be laid with as little rubbing of the brush as possible, in order to keep them fresh and bright.

Every part of the background should appear to retire from the figure.

As a general rule, in mixing compound tints, always begin with the predominating color, and add the others to it.

Make all cast shadows of one tone, and always warm (except at the edges), varying of course with the local tint.

The eye is the proper judge of color, and the perception of color is a natural gift.

The eye requires some repose, and is fatigued by an object overloaded with ornament.

The first requisite in every picture is, that it should tell its own story.

Most things that are gaudy are vulgar; and much that does not seem so exceedingly vulgar in nature will appear so in a picture.

A photograph, to be painted *according to art*, ought to approach as near as possible to a miniature, and lose its photographic appearance entirely.

The shadows, and gray and pearly tints, must appear to lay *upon* the flesh, instead of *under* it, as they really do occur in nature.

Portrait and miniature painters invariably place their sitters *higher* than themselves; photographers almost invariably, and improperly, do the reverse.

The less of any "medium" or "vehicle," except pure water, which the colorist uses, the better his work will be likely to appear.

"Prettiness" in painting is not art, and excessive finish is purely mechanical; the most accomplished painters have executed their finest pictures with apparently little labor.

Nature relieves one object from another by means of light

and shade; and we find everywhere light opposed to dark, and dark to light.

Every gradation to shadow is a gradation *from* color, and the color in shadows, therefore, should never be too bright.

The style of execution should vary with the subject, to aid in expressing character; vigorous and bold in men, delicate and tender in women and children.

Avoid harshness. Let every line be softened as in nature, where, though the boundary of sight is distinctly marked, there are no positive outlines.

When the outline of a figure is ungraceful, it may judiciously be lost to some extent in the shadow of the background.

Massing lights and shadows together will insure breadth and grandeur of effect. A skilfully-managed background will greatly aid this result.

The most careful manipulation and elaborate finish will be ineffective, without constant attention to a sufficient preservation of breadth of light and shade.

Do not make it a rule to begin and finish any particular part at once; but keep the picture together—get every part of it *in* before you begin to finish.

Keep reflected lights warm, unless the object from which they are derived is visible; in which case they will partake of its especial tone and color.

Colors should be kept pure and transparent, truthful to the subject, and harmonious both with each other and the nature of the picture.

It is preferable that yellow should predominate in a picture rather than white, though yellow should always be in less quantity than blue and red.

The intensity of tones of colors should be equal in the same composition; but a dark and light hue may be used together with good effect.

A great quantity of the same color in one part, and little or none of it in another, are fatal to the general effect, and disturb the balance of colors.

Large masses of one color should not catch the eye; it should receive, at the same moment, the combination of several colors.

All colors, simple or compound, have a tendency to tint surrounding objects with a faint spectrum of their complementary color.

The shape and composition of a picture should, as far as possible, harmonize—not contrast with—one another; and the selection of both should be consistent with the subject.

The object of all photographic representations of persons being to secure an exact *likeness*, remember that the *head* is the principal object of interest, and everything else must be done with an eye to set *that* off to the greatest advantage.

The color of most objects is best discerned in the middle tints; strong colors are reserved for the parts nearest the eye; receding objects are fainter in color than those near the eye.

In the consideration of a picture, or any work of art, a motive, or subject, is implied; and clearly to express such motive should be the leading object in its composition or arrangement.

Painters usually throw more light upon the heads of children and women than they do on the male head, which is better suited to a depth of shadow. Heads of aged persons, of both sexes, should likewise be placed in a full light, as it tends to soften and subdue the permanent markings of age.

In water-color painting, the first colors should always be bright and pure, because they may be easily lowered to the desired tone; but if their purity is once sullied by admixture with other colors, their original brightness can never be recovered.

The presence of yellow in the vicinity of red and blue, or

a small quantity of that color interposed between them, has the good effect of preventing their borrowing from each other, and appearing purple. The interposition of white has a similar, but colder effect.

The dash and decision of execution which so frequently attracts our admiration in works of art, in which the will and the way of their accomplishment appear as a single impulse, are often more the result of preparatory study and forethought than is generally suspected.

It is not a good manner of working to stick at one picture until it is completely finished; but far better to have more than one on hand, as by this means when your fresh eye is brought to each picture in its turn, it will at once detect points that may be improved, but which your jaded vision had before overlooked.

Pictures cannot be painted by rule; for rules themselves are *derived from* pictures, rather than pictures from rules, precepts, or books. If, in viewing a painting, the attention is involuntarily drawn to a fine or a bad effect, the mind of the zealous student will at once endeavor to perceive *by what means* the fine effect was produced, or by the disregard of what principles the bad effect resulted. Thus he will naturally originate rules for his own guidance, by which he may be able to imitate the one and avoid the other.

"Dirty tints," in coloring, express that the tone neither represents true light and shade nor yet true coloring; dirty tints are most frequently the result of inexperience or timidity in using colors; thus, passing wash after wash of various pigments, without attention to their differing qualities, will soon produce this disagreeable result. To prevent it, the student should make experiments with his pigments, and thus learn beforehand, the result and effect different washes or mixtures will produce.

Mannerism in art may be described as any peculiar way of treating or handling pictorial subjects; the work being

executed in one unvaried manner, arising doubtless from the limited ideas of the artist, or a want of facility or variety in the way in which he embodies them. Avoid it.

Red and green are not variety, but *contrast.* It is only rarely and in the smallest possible quantities, that nature allows herself any violence of contrast, whilst her incessant endeavor is after *variety.* If a face is excessively fair and delicate in color, the hair and eyes are correspondingly light.

As the general color of the atmosphere is supposed to be *blue*, distant objects lose much of their local color, and assume more or less of a gray tint; and details become less distinct until they are totally lost in the distance.

Keep your brushes clean by frequent washing, but never leave them standing in water, nor allow them to dry charged with color—especially body-color.

To prevent any one color from becoming conspicuous, it must be harmonized into others by gradation, and not be too violently contrasted by complementaries or inharmonious tints. A color out of harmony may be quite, if not more conspicuous than one contrasted with its complementary, only the effect will be disagreeable instead of agreeable. A color becomes conspicuous when it is decidedly unnatural or out of place, as blue in trees, or pink on walls. So in the human face, the same amount of color which placed on a lip is scarcely noticed, if removed to the nose becomes strikingly conspicuous. A single spot of color in a landscape may often appear too prominently, unless *repeated* by other smaller and more broken portions.

Every color, as well as every thing, is good and useful *in the right place;* it is only the excess that is disagreeable or hurtful. Some sooner appear unnatural or stronger than others. A constant recurrence to any one favorite pigment or tint for effect is apt to beget *mannerism;* it then becomes worse than useless; it injures instead of improving.

An appearance of dexterity and ease is attractive in every

art, and in none more than in water-color painting: the labor with which the effect is attained should be hidden.

Two folds of similar size and form should not be near each other.

It is not by the great variety of tints that fine coloring is produced, so much as by judicious combinations and the manner in which those are employed.

Accessories should be subordinate to color, light, and effect, with respect to the head.

Breadth of effect is obtained when the lights of a picture are so arranged that they seem to be in *masses*, and the shadows are *massed* to support them, so that the attention of the spectator is powerfully arrested, and his imagination excited to supply the details.

Depend upon simplicity of arrangement for certainty of effect.

The proper situation of strong color is neither in the high lights nor in the deep shade, for it would destroy the character of either; but, if it is made use of as an intermediate link, it will unite both, and at the same time preserve a greater consequence. Whether it is to be warm or cold, must depend upon the color of the principal light, of which it is to be considered an extension, conveying its influence into the darkest recesses.

Strong color requires rich, deep shadow to support it.

That the picture should consist of *both* warm and cold colors, seems as indispensable as that it should have light and shade; but, which shall form the light and which the shade, is entirely at the option of the artist. It is, however, necessary that they should have separate situations, and also unite both extremes of the work by an exchange of portions of each color.

Colors that are most agreeable to the eye, are such as the eye has become accustomed to from their constantly being presented to the sight.

White and black can be reconciled only by the interposition of gray; and red and blue, by the presence of a third color, combining the properties of warm and cold.

Conclusion.

In leaving to the student the instructions contained in the foregoing pages, we desire to remind him of the necessity of *constant practice*, and the advantage to be derived from *the examination and study of good examples.* Be not discouraged by the difficulties which may appear to loom up between the beginner and the expert painter—for the process of coloring photographs is by no means so difficult as might be at first supposed.

Commence upon unobjectionable photographs, so that there be no deficiencies in them to increase whatever difficulties may attend your first efforts.

Endeavor to *comprehend* your work. Judge well among the lights, which are those and in what number, that possess the first degree of brightness; and so, also, among the shadows, which are those that are darker than the others, and in what manner both mingle together—remembering that these lights and shades must be finally joined without hard lines of definition, and with artistic effect.

Do not attempt the execution of pictures too large or complicate, in the first place; and, as this book covers the whole range of *practical* work, seek its *instructions* constantly, rather than venture upon *experiments* of your own. Remember that the foregoing contents, prepared for your guidance, cost others years of labor and study, and that, in all probability, it is competent to assist the diligent student in every emergency.

To such as have studied this little volume with a conscientious desire to accomplish in themselves the purpose for

which it has been written, we would submit for their guidance the following important points:

First.—SYSTEMATIC WORKING will accomplish much in the end, although, as the student has already learned, the various qualities of tone in the photograph will not always permit the adaptation of the same methods. But he can devise his plans, and have them ready for application to light or dark prints respectively, and thus *know beforehand just what to do.*

Second.—CAREFUL HANDLING will economize his time and labor, obviate the necessity for alterations or corrections, preserve the purity and beauty of the colors, and give character to the work. The very soul of water-color painting is *to know what to do*, and then to *do it* AT ONCE! The possession, or the want of this quality, will be easily perceptible, to a discerning eye, in every man's work. Different from oil painting, water-color allows no experimenting, no patching, no corrections of any importance.

Third.—DETERMINATION to surmount all difficulties, if it can be done by study and practice. Strive to combat disappointment, if such a feeling attend your earlier efforts. Try to obtain *new ideas* from the more perfect works of others who are recognized as proficients, and let every picture of your own contain points which indicate *an advance* of your efforts at least one step farther.

Finally. — PRACTICE, based upon the directions given, *must* result in enabling the student to soon familiarize himself with the exigencies which are incident to photographic painting, and render the labor easier; but ultimate *success* will depend upon the individual—his natural capacities, enthusiasm for his work, and a careful resolve to achieve the victory.

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